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INTRODUCTION

Introduction

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Early identification of communication disabilities in young children is a challenging, multifaceted and dynamic responsibility for speech-language pathologists (SLPs) and related educational professionals. Several decades of educational research provide undeniable connections between appropriate early identification and intervention of speech and language disorders in improving later academic and social success of children from birth through kindergarten. Without exception, the complex needs of children and families necessitate an interdisciplinary approach, which is responsive to developmental, cultural, and linguistic variability. Now more than ever before SLPs play a crucial role on interdisciplinary teams, identifying and working with young children in a variety of settings. Therefore, it is imperative that SLPs contribute to the development and implementation of evidence-based practices within child care settings, school districts and Boards of Cooperative Services (BOCES) across the state of Colorado. This helps ensure that Colorado's youngest children receive the most effective interventions to prepare them for educational success. The primary purpose of the Birth through Kindergarten Colorado Communication Guidelines is to assist SLPs in their collaborative teaming efforts with

early childhood educators, parents of young children with communication needs, and related professionals involved in identifying and meeting the needs of all children in early learning environments.

National legislation including the recent reauthorization of IDEA and the No Child Left Behind (NCLB) have delineated the significance of prevention activities and early identification of children at risk of academic failure. The American Speech-Language-Hearing Association (ASHA) has attempted to clarify the varied roles of SLPs in prevention and early identification activities, as well as continue to meet the traditional evaluation responsibilities required through federal and state mandates. Special emphasis has been placed on the role of SLPs in early literacy interventions, especially in the development of oral language skills, which have been recognized as the most basic foundation for literacy development. Many states, including Colorado, have revised their licensing standards for SLPs to correspond to the rising awareness of the critical nature of language in early childhood. Research shows that waiting to identify children with communication disabilities until they are in kindergarten is an outdated and ineffective method (ASHA, 1999).

COLORADO GUIDELINES FOR SPEECH-LANGUAGE ASSESSMENT AND ELIGIBILITY

Recognizing the diverse nature of children with disabilities across Colorado and the many roles of SLPs, the Colorado Department of Education (CDE) sponsored the creation of the Guidelines for Students with Communication Needs (1995). This document, along with the Severity Rating Scale, was developed and reviewed by SLPs across Colorado to serve as the first statewide systematic approach to identifying students with communication disabilities. Prior to 1995, interpretation of the speech-language eligibility criteria was inconsistent within and across district, causing confusion as students moved within the state. The Guidelines were updated and redistributed with intensive training in 2001 by the Speech-Language Advisory Council, a statewide body sponsored by CDE. The Colorado Guidelines for Speech-Language Assessment and Eligibility and the Communication Rating Scales were intended primarily to guide SLPs in assessment and eligibility for students ages 5 to 21 years. It was considered applicable to children ages 3 to 5 years with significant professional judgment. Feedback from SLPs working in early childhood settings advocated for the development of a companion document specifically addressing children from birth through 5 years. The Birth through Kindergarten (B-K) Colorado Communication Guidelines fulfilled that need.

PURPOSES OF THE B-K GUIDELINES

This document is designed to provide guidelines based on evidence-based practices for prevention, identification, and intervention of communication disorders in young children birth through kindergarten. It is a tool to guide professionals

working with the early childhood population in making informed decisions based on ongoing data collection, developmentally appropriate practices, and research-based evidence. It is not designed to provide a specific formula for determining eligibility, or length/frequency of intervention. As a resource for SLPs, it is intended to ensure that young children between the ages of birth through kindergarten receive appropriate early communication intervention services consistent with individual needs and inclusive of developmental, educational, and family concerns.

The guidelines also provide:

- Criteria for the identification of communication impairment related to typical developmental milestones, which may guide early intervention and educational teams to selection of appropriate school, community, and family resources for effective interventions and positive outcomes. Examples include communication-based clinical cues/early education indicators, which may impact future educational achievement (i.e. early literacy).
- Effective early identification practices for infants, toddlers, preschoolers, and kindergarteners who are at risk or suspected of having a communication disability.
- Recommendations for interdisciplinary assessment and evaluation which are developmentally, culturally, and linguistically sensitive and are coordinated to determine strengths and needs of children birth through kindergarten.
- A continuum of collaborative teaming responsibilities developed for the SLP in the provision of early intervening services and prevention activities for children birth through kindergarten.

WHAT IS COMMUNICATION?

Communication is the process by which one exchanges information with others. It includes the ability to produce and comprehend messages. Communication involves the transmission of all kinds of messages, including information related to needs, feelings, desires, perceptions, ideas and knowledge. Communication involves a variety of modalities, including non-linguistic, verbal and paralinguistic processes. All of these processes influence an individual's ability to communicate with others. (New York State Department of Health Early Intervention Program, 1999)

- Non-linguistic processes include gestures, body posture, facial expression, eye contact, head and body movement and physical distance.
- Verbal communication pertains to the use of words and includes the ability to formulate and produce words and sentences (spoken, signed or written) with appropriate vocabulary, grammar and use of conversational rules.
- Receptive Language/Comprehension refers to understanding of the implicit and explicit meanings of words and sentences in auditory or written form.
- Paralinguistic processes include affective (emotional), social and interpersonal modifications to language. For example, in English, a rising intonation contour signals a question and a change in emphasis can be used to alert the listener to new information.

Language, an integral part of human communication systems, is used to control and mediate one's own actions, thoughts, and behaviors. Although language and speech are sometimes thought of as inseparable, they are different but highly related systems.

- Language is a rule-based system of symbolic communication involving a set of small units (syllables or words) that can be combined to yield an infinite number of larger language forms (phrases and sentences). Language must be interpreted via a modality. Oral and aural (speech and hearing) mechanisms are most commonly utilized, but other modalities such as American Sign Language and writing can also be used.
- Literacy includes the ability to read, write, speak, listen, and think in order to compute and solve problems at levels of proficiency necessary to function in society, to achieve one's goals and to develop one's knowledge and potential.
- Speech is the method of verbal language communication that involves oral production and articulation of words. Speech is the result of specific motor behaviors and requires precise neuromuscular planning and coordination of respiration, phonation, resonance, and articulation systems. Speech requires the production of sounds and combinations of sounds in speech, in addition to voice quality, intonation, rate and fluency.

HOW DOES TYPICAL COMMUNICATION DEVELOP?

Communication is integral to overall developmental progress in young children, particularly in cognitive, social-emotional, and adaptive developmental domains. Newborns enter the world with limited but functional repertoires of behaviors that serve as communication signals to responsive caregivers. Communication begins in the earliest days of infancy when babies and caregivers “take turns” in their first “conversations” of looking, vocalizing and gesturing. For example, an infant’s cry is usually a sign of distress; smiles and coos signal pleasure; and hand sucking may signal hunger.

Typically developing young children demonstrate many rich gestural and social prelinguistic (before verbal language production) communication routines prior to the onset of first words. Important prelinguistic behaviors in the first year of life include:

- **Joint attention:** the baby and caregiver look or attend to the same item. For example, the baby points to a toy and actively engages the caregiver in looking at or playing with the toy.
- **Gestural communication:** the baby raises his/her hands to be picked up or points to a desired object and looks back at the caregiver to wait for the object.
- **Turn-taking during social routines:** the child participates in games such as “peek-a-boo” and “pat-a-cake”
- **Imitation:** the child imitates the language modeled by the adult caregiver. (Owens, 2004)

The production and use of words emerges later in development, usually during familiar routines and with familiar adults (i.e., “bye-bye,” “mama”). As young children move into the “intentional language stage,” both language comprehension (what

the child understand) and language production processes become evident. It is typical for young children to develop language comprehension skills more quickly than language production skills. As speech and language skills develop, they form the foundation for reading and writing skills that are essential for learning academic disciplines. This systematic progression of speech and language development is characterized briefly below. (For more specific developmental markers see Communication Milestones in Chapter 3.)

Language involves the ability to combine sounds, words, signs, and sentences to communicate our thoughts and understand others. It is a highly complex system and it is how we, as humans, socialize and learn.”The first six years of a child’s life are filled with speech and language expectations and changes that will serve as the foundation of a lifetime of communication. Timely speech/language skill acquisition may be related to the early establishment of this foundation. As we view the following chronological summary, there is a bridge being created by communication skills in every aspect of life (Apel & Masterson, 2001).

During the first year, children use vocalizations, gestures and eye contact to participate in family and caregiver interactions. They begin to understand words and phrases as they engage in turn taking to request objects and actions.

During the second year of life, children’s comprehension and production abilities expand gradually at first, and then rapidly around 18 months. Syntax (words combined in phrases and short sentences) also develops during this period. Additionally, children initiate communicative exchanges and readily participate in early discourse.



By three years of age, children have acquired all the rudiments of language. Longer, more complex phrase and sentence structures emerge, with the average sentence length being approximately three to four words. Three year olds start to become sophisticated conversationalists and are able to initiate discourse, maintain a topic of conversation and add information. They also learn to describe complex events and past experiences. People outside the family can increasingly understand the child at this stage (ASHA, 2003).

By four to five years of age, the young child can pay attention to short stories, answer simple questions, formulate sentences with adult-like grammatical structures, string together ideas in an understandable sequence and communicate effectively with adults and other children. At this point, foundations of phonological awareness are being formed. By four years of age, most children are able to segment words into syllables: about 50% of four year olds can clap the number of syllables in words (te-la-*phone* = 3). At this stage, most sounds are fully developed and pronounced correctly (ASHA, 2003)

By five to six years of age, children have a broader knowledge of the sound system. Fifty percent of five year olds can count the sounds of simple words (c-a-t = 3). When children gain phonological awareness, they are able to manipulate sounds and sound units to create words, segment words into sounds and recognize similarities and differences between sounds. These skills are the underpinnings of literacy development (Catts, 1993). At this age, children are learning not only about spoken language, but also about written language. Children at this stage begin to use language in different ways to develop vocabulary and implement social skills (Apel & Masterson, 2001).

WHAT IS A COMMUNICATION DISORDER?

A Communication disorder is “An impairment in the ability to receive, send, process, and comprehend concepts verbal, non-verbal, and graphic symbol systems. A communication disorder may be evident in the processes of hearing, language, and/or speech. A communication disorder may range in severity from mild to profound. It may be developmental or acquired. Individuals may demonstrate one or any combination of three aspects of communication disorders. A communication disorder may result in a primary disability or it may be a secondary to other disabilities” (ASHA, 1993a, pp. 40 - 41).

Communication disorders range from a rather mild substitution of sounds to a severe inability to use language or speech. Communication disorders in a young child may be characterized by delays, interruptions and/or atypical development.

HOW COMMON ARE COMMUNICATION DISORDERS?

The American Speech-Language-Hearing Association (ASHA) estimates that 46 million Americans have some type of communication disorder. Communication disorders can occur in isolation or co-exist with other developmental disorders, such as mental retardation and autism spectrum disorder (18.9% of children in US under the age of 21 have a developmental disability.) (ASHA, Fact Sheet, 1998). In young children, communication represents the most common developmental problem. Using ASHA’s definition, it is estimated that between 15 – 25% of young children have some type of communication disorder. In addition, eight to nine percent of children have difficulty producing

speech sounds, and as many as 19% of preschool age children have language difficulties. Four to five percent of children between the ages of two to four years experience incidences of stuttering (Yaire & Ambrose, 2004).

WHAT ARE THE CAUSES OF COMMUNICATION DISORDERS?

Frequently, the specific cause of a communication disorder is unknown. Some common problems that co-exist with communication disorders include, but are not limited to cerebral palsy and other neuromuscular disorders, traumatic brain injury, autism, stroke, viral diseases, mental retardation, drug effects, structural impairments, such as cleft lip or palate, vocal nodules and/or inadequate/lack of speech and language models (ASHA, 1999b).

WHEN DO COMMUNICATION DISORDERS BEGIN?

Children begin to develop communicative skills that form the foundation of language in very early infancy. Severe communication disorders in young children are frequently associated with medical diagnoses that are characterized in part, by developmental disabilities or severe hearing loss/deafness. These disorders are usually identified during infancy due to delays in cooing and babbling, general unresponsiveness to communication routines with caregivers or the presence of feeding problems. Other speech and language disorders (e.g. language delay, stuttering, voice dysfunction, articulation difficulties) cannot typically be observed until after the child begins to talk. Delayed or limited production of words may be the first indicator of a communication/literacy disorder in some children (Apel & Masterson, 2001)

CAN A CHILD DEVELOP A COMMUNICATION DISORDER AFTER A PERIOD OF APPARENT NORMAL LANGUAGE DEVELOPMENT?

Children who exhibit a delay in the acquisition of speech and language skills usually follow a typical pattern of development; however, it is usually at a markedly slower rate than children without speech-language difficulties. Any marked regression or loss of language/communication skills requires comprehensive medical, neurological, psychological and audiological evaluations to rule out possible contributing and maintaining factors such as seizure disorder, degenerative syndrome, progressive hearing loss, brain-based abnormality or severe social-emotional trauma. Regression in communication skills can occur in young children as a result of specific medical conditions or medical syndromes (i.e. Autism Spectrum Disorder). However, it is important to note that there is a sub group of children (generally 18 – 36 months) who experience a period of typical language followed by a reported regression in communication skills. These children need to be monitored for developmental progress by parents, caregivers and professionals (New York State Department of Health Early Intervention Program, 1999).

DO CHILDREN “OUTGROW” COMMUNICATION DISORDERS?

Although the stages that a child achieves tend to be generally consistent, many factors may impact the speed of development and age that a child reaches various milestones. Factors, such as a child’s innate ability to learn language, the amount and kind of language that a child hears, and caregiver’s responses to the child’s

communicative efforts can all affect the pace of acquisition. Young children who have communication disorders do not “outgrow” them. Appropriate interventions often help to improve language skills; however, they may not completely eliminate the disorder. Conversely, young children described as “late talkers” who evidence only expressive language delays may appear to “catch-up” with their peers in the preschool or early school years (New York State Department of Health Early Intervention Program, 1999).

A child who demonstrates communication delays as a toddler and preschooler may be at a greater risk for later language learning disabilities, including reading disabilities (Rescorla & Schwartz, 2002). A number of factors have been reported to increase the risk that a “late –talking” child may experience language difficulty. These factors include:

- a small, restricted vocabulary
- delays in both receptive and expressive language skills
- a limited phonetic inventory
- vowel and consonant errors
- delayed play behaviors
- socialization problems, involving initiation and willingness to converse (Olswang, Rodriquez, and Timler, 1998)
- few gestures to support communicative attempts
- limited progress in the quantity and quality of language development (lack of new words and new purposes occurring every month)

WHAT INFLUENCE DOES A COMMUNICATION DISORDER HAVE ON A YOUNG CHILD?

Communication is essential to playing, thinking, learning and engaging in social interaction throughout every aspect of a child's life. Therefore, impaired communication may impact a child's social and emotional skills, cognitive skills and the acquisition and mastery of academic skills. Even if a delay is transient, a communication delay at a young age may have a negative impact on a child's overall development.

WHAT ARE THE TYPES OF COMMUNICATION DISORDERS?

Language Disorders

Language is a system that humans develop in order to communicate ideas and express wants and needs. Reading, writing, understanding, speaking, and gestures are all forms of language. Language includes the meanings of words (i.e. content/semantics), the way words are ordered (i.e. form/syntax) and the way words are used to convey a message (i.e. use/pragmatics).

A *language disorder* refers to impaired comprehension and/or use of spoken, written and/or other symbol systems. Language disorders affect the child's ability to comprehend (receptive language) and/or appropriately use words or gestures (expressive language). The disorder may include difficulties in:

- The form of language (phonology, morphology, syntax)
- The content of language (syntax/meaning)
- The function of language in communication (pragmatics/use)

In general, language disorders can be grouped in the following categories of co-existing conditions: Disorders associated with global cognitive deficit

- Disorders associated with Autism Spectrum Disorders (ASD) and other developmental disorders
- Disorders associated with hearing impairments
- Disorders associated with social/environmental factors
- Disorders NOT associated with other impairments or disabilities



Children with cognitive delays, Autism Spectrum Disorder (ASD) and other developmental disabilities almost always experience delays in their language development. The severity of these language disorders may vary according to the severity of the child’s primary disability.

The severity of speech and language impairments in children without concomitant medical or developmental issues may range from mild delay to more severe deficits. These deficits can contribute to language learning disabilities and significantly influence both academic and social success. The degree and pervasiveness of any communication impairment can be directly associated with the number of risk factors involved. The summary of the communication components associated with language skills is provided in Table 1.1.

Articulation/Phonology Disorders

Speech is a fine motor activity involving rapid coordinated movements of the lips, tongue, vocal folds, and respiratory system to produce sounds. Although there is a generally accepted sequence of development of sounds based on research, significant variability between children is common (See Appendix A). Speech disorders involve impairment of any of the aforementioned systems. These disorders may have a negative effect on the educational/developmental progress if speech intelligibility affects the child’s ability to function at home or other environments.

An articulation disorder occurs when a child has an atypical production of speech sounds characterized by substitutions, omissions, additions or distortions that may interfere

TABLE 1.1 LISTENING, SPEAKING, AND LITERACY COMMUNICATION COMPONENTS

	LISTENING (RECEPTIVE LANGUAGE)	SPEAKING (EXPRESSIVE LANGUAGE)	LITERACY (READING/WRITING)
FORM (phonology, morphology, syntax)	Applies phonological, morphological, and syntactic rules to comprehend and understand oral language	Uses rules (phonological, morphological, and syntactic) in words and sentences correctly in conversations with increasing length and complexity.	Demonstrates an emergent awareness and appreciation of print and literacy materials
CONTENT (semantics)	Understands the meaning of words and spoken language	Conveys intent and needs through oral or gestural language Formulates thoughts into oral language Develops vocabulary for language	Begins a developing awareness that print, graphemes and environmental signs have meaning and purpose and reciprocal response by written attempts .
FUNCTION (pragmatics)	Follows directions Understands social meanings	Uses appropriate language for the social context Takes turns in listener/speaker role.	Understands mood, tone, style, context, and perspective of shared literature.
COGNITIVE COMMUNICATIONS COMPONENTS	long-and-short-term memory problem-solving related components.		

TABLE 1.2 ARTICULATION/PHONOLOGY COMPONENTS

ARTICULATION	PHONOLOGICAL	ORAL-MOTOR
Includes phonemes (speech sounds); Categorized according to consonant manner, place, and voicing and vowels.	The rules for the sound system of a language, including how sounds are used in forming syllables, words and sentences and the permissible arrangements or patterns of the sounds.	Involves articulator range, strength, and coordination; in addition to the planning, sequencing and co-articulation of speech movements.

with intelligibility (ASHA, 1993a). Accurate production of speech sounds relies on the interplay of phonemic, phonological, and oral-motor systems. (See Table 1.2) Articulation typically refers to the motoric production of sounds and the clarity of the speech production. Children who are diagnosed with articulation disorders are often unable to produce the intended sound even when provided with an imitative model. Therapy for articulation disorders includes establishing a means to facilitate the child’s production and mastery of targeted sounds and may be conducted concurrently with speech-language intervention. For further information about speech motor disorders refer to Appendix B.

Phonological processes are the rules that children employ to make the production of difficult words easier to produce. For example, a child might use the process of velar fronting, in which he/she produces a “t” for the more difficult sound “k”, in the word “key”, so it sounds like “tea”. Research suggests that children use these processes during normal speech acquisition (Hodgson, 2004). Generally, these patterns disappear as the child matures, and speech sound errors are replaced with correct productions. When a child continues to employ these faulty patterns or processes beyond an age that is appropriate, the child is judged to have a phonological delay or disorder.

Fluency Disorders

“A fluency disorder is an interruption in the flow of speaking characterized by atypical rate, rhythm, and repetition in sounds syllables, words, and phrases. This interruption may include tension, struggle behavior, and secondary mannerisms” (ASHA, 1993a, pp. 40).

A certain percentage of dysfluencies during speech production are a normal phenomenon in many young children. Types of normal dysfluencies include hesitations, interjections, revisions, and repetitions. It is not uncommon for characteristics of stuttering to appear suddenly. These dysfluent episodes or periods may be associated with some exciting, unusual or uncertain event (e.g. holiday, significant family change). However, stuttering patterns may not be related to anything observable in the child’s life. These behaviors may last for a short period of time, resolve spontaneously and reoccur. There are several factors that influence a child with early stuttering. These factors may include:

- Family history of dysfluencies
- Family and child attitudes toward the dysfluencies
- Age of onset and gender
- Communicative and cultural environment of the child and development
- Intensity and degree of dysfluencies

Stuttering typically begins in the early years at the peak of speech and language development. During this period, children progress from producing one and two word utterances to longer and more complex sentences. Additionally, a child's vocabulary grows rapidly and an increasing number of abstract concepts are being learned during this period. The first signs of stuttering are generally observed throughout this time, which ranges between 2 and 5 years of age. It is important to note that 75% (or more) of children who show initial signs of stuttering at age 3.5 years will spontaneously recover. (New York State Department of Health Early Intervention Program, 1999). Since dysfluent behaviors are expected at this stage, it is important that the SLP consider the appropriateness of the frequency and type of intervention for fluency disorders. Generally, interventions approaches address one

or all of the components represented in Table 1.3. Appendix C contains information about fluency disorders in young children.

Voice and Resonance Disorders

Voice problems arise from a variety of sources. The most common voice disorders in young children are caused by vocal misuse and abuse, such as chronic yelling. Such stressful and inappropriate laryngeal muscle activity can lead to structural changes such as vocal nodules or polyps. Other voice and resonance problems occur as a result of velopharyngeal incompetency or insufficiency due to structural and/or functional problems of the soft palate (e.g. cleft palate, craniofacial abnormalities). Other medical factors that can result in voice and resonance problems include neurological disorders (e.g. cerebral palsy), laryngeal trauma, and other vocal fold growths or abnormalities.

TABLE 1.3 FLUENCY COMPONENTS

AFFECTIVE	BEHAVIORAL/PHYSICAL	COGNITIVE
Feelings about speaking	Respiration	Language/linguistic competencies
Self-esteem	Articulation	Accuracy of perceptions
Feelings in response to environmental and situational influences	Phonation	Attitudes about speaking
Feeling of fluency control	Rate of speaking	Attitudes regarding fluency
Temperament characteristics	Concomitant factors (e.g., sensory integration difficulties)	Internal demand for complex language.

TABLE 1.4 VOICE AND RESONANCE COMPONENTS

PHYSICAL	FUNCTIONAL	EMOTIONAL
Respiration: lungs, diaphragm	Loudness/intensity, sustained phonation	Confidence
Phonation: larynx, vocal folds	Pitch, onset of phonation	Self-esteem
Resonance: velopharyngeal, oral, and nasal resonance structures	Resonance and airflow	Stress

“A voice disorder is characterized by the abnormal production and/or absence of vocal quality, pitch, loudness, resonance, or duration, that is inappropriate for an individual’s age and/or sex, or cultural background” (ASHA, 1993a, pp. 40).

All children with voice disorders must be examined by a physician, preferably in a specialty appropriate to the presenting complaint (e.g. otolaryngologist). The examination may occur before or after the voice evaluation by the speech language pathologist (ASHA, 1997c).

Voice problems arise from a variety of sources including, but not limited to:

- Vocal nodules
- Laryngeal web or scar
- Laryngomalacia
- Craniofacial abnormalities
- Vocal fold paralysis
- Laryngeal trauma
- Velopharyngeal incompetence/insufficiency
- Neuromuscular disorders such as cerebral palsy (Norris & Hoffman, 1993)

Vocal problems may also be related to more functional issues, which pertain to stressful or inappropriate laryngeal muscle activity in the absence of a structural problem. These can include, but are not limited to:

- Habitual patterns of voice production that handicap the voice (e.g. chronic yelling/vocal abuse)
- Psychological factors

Medical problems, which contribute to or maintain a voice disorder may include asthma, allergies, gastroesophageal reflux, frequent colds, and/or other respiratory problems.

Feeding and Swallowing Disorders

Swallowing allows us to eat and drink and get adequate food, liquids and nutrition for growth and development of body and mind. Swallowing disorders, also known as *dysphagia*, must be identified and managed effectively by all health and educational team members. Swallowing difficulties may be transient (e.g. in children in acute stages of traumatic brain injury) or permanent as is more commonly seen in children with neurological diseases such as cerebral palsy.

Swallowing difficulties can range from mild (e.g. difficulty with chewing or oral transit) to severe (e.g. risk of aspiration/food entering airway with different food consistencies) and can have implications for the child’s sensory and motor systems. Referrals to and collaboration with appropriate medical professionals are necessary in the effective management of pediatric feeding and swallowing problems.

A comprehensive medical history of infants, toddlers, and/or young children, must be conducted and a Modified Barium Swallow (MBS) examination performed, if indicated, to rule out silent aspiration (food/liquid entering airway without the presence of a throat clear or cough reflex).

“Swallowing function treatment is conducted to improve the child’s oral, pharyngeal and laryngeal neuro-motor function with swallowing activities” (ASHA, 1997b, pp. 63)

As noted in Table 1.5, a combination of physical, functional, and health factors are considered when

determining if intervention is appropriate. Further discussion and information regarding pediatric swallowing and feeding is located in Appendix D.

The symptoms of a swallowing disorder may include:

- Difficulty chewing, moving the food bolus from the mouth to the pharynx
- Refusal of bottle or breast; difficulty with suck/swallow/breathe pattern
- Apnea; color changes; bradycardia during feeding
- Gagging, gastrointestinal reflux, vomiting or congestion during feeding
- A chronic history of pulmonary difficulties which may include asthma like symptoms, bronchitis, recurrent pneumonia or the need for supplemental oxygen
- Profuse drooling
- Vocal or respiratory quality that emerges

TABLE 1.5 SWALLOWING COMPONENTS

PHYSICAL	FUNCTIONAL	HEALTH
Oral, pharyngeal, laryngeal and esophageal function	Safe and efficient chewing and swallowing	Pulmonary complications
Respiratory function	Developmental skills for eating	Nutritional implications
Safety and quality of life considerations	Pleasure of eating, social interaction	Attitudes about speaking

Hearing Disorders

Hearing loss affects more than 1.2 million children under the age of 18 in the United States. (Adams & Marano, 1995) Positive, functional outcomes in the therapeutic, educational and social-emotional domains depend on the coordinated efforts of many individuals, including, but not limited to the child, parents, teachers, audiologist, SLP, and otolaryngologist/otologist. A teacher of the deaf and hard of hearing, SLP or audiologist may serve as the coordinator of services and liaison for the family and the early intervention system. The heterogeneous population of children with hearing loss or deafness encompasses a broad range of functional communication styles, abilities, and types of services. The family's choice of communication systems and their ability to develop language in one or more communication modalities varies (ASHA, 1998c).

Results of a study that examined 368 deaf or hard of hearing children born in Colorado supported the existence of a critical period of language

development in the first six months of life. The researchers found that children who are fitted with hearing aids and get other special attention (intervention) as early as possible go on to develop near normal vocabularies and understanding of grammar. Three quarters of deaf and hard of hearing children who receive early intervention can speak intelligibly by the time they reach school age. More than 90% of children identified early with poor hearing can develop vocabulary skills within the normal range in the first three years of life. In comparison, only 25% of children identified at later ages develop vocabulary approaching the normal range. Since screening began in Colorado, one in every 1000 infants was found to have a unilateral loss, while two in every 1000 infants have bilateral losses. (Yoshinaga-Itano, 2000)

When a child is diagnosed with a hearing loss, the hearing components necessary to determine methods of language intervention can be found in Table 1.6.

TABLE 1.6 HEARING COMPONENTS

PHYSICAL	FUNCTIONAL	EMOTIONAL
Age of onset of hearing loss; age of identification/intervention	Availability and use of residual hearing; Consideration of the range of communication services, styles and skills.	Attitudes of parents/caregivers and peers with regard to hearing impairment
Type/severity of hearing loss	Acoustic environment; identifying communication demands in settings where learning and daily activities take place.	Access to hearing aids, Assistive listening devices ALD's interpreters/translators (e.g. American Sign Language (ASL), cued speech and computer assisted devices speech) and computer assisted devices.
Presence of additional disabilities	Continual monitoring of development of speech, language and other performance areas.	Assisting in the development and enhancement of self esteem and confidence for hearing impaired children.

Numerous reports document the effects of hearing loss on speech, language, social-emotional and academic development (Baker-Hawkins & Esterbrooks, 1994, Kretschmer & Kretschmer, 1978, Maxon & Brackett, 1987, Quigley & Kretschmer, 1982). Even children with mild, fluctuating, or unilateral hearing loss can exhibit significant delays (Bess, Dodd-Murphy, and Parker, 1998; Connecticut Advisory School Health Council, 1998; Davis, Elfenbein, Schum, and Bentler, 1986; Gallaudet University Center for Assessment and Demographic Study, 1988; Joint Committee on Infant Hearing, 1994). For further information on the effects of hearing loss and appropriate assessment tools refer to Appendix E.

The Agency for Health Care Policy and Research reports that the most common cause of temporary and fluctuating hearing loss in children from birth to 3 years of age is otitis media (i.e. ear infection), which can be acute or chronic and may occur with or without effusion (U.S. Department of Health and Human Services,

1994). Not all children who experience otitis media have significant hearing loss or develop subsequent communication and learning problems. However, the prevalence of otitis media (especially chronic otitis media) during the critical speech and language development period, places children at risk for speech and/or language delay/disorder, which may adversely affect development and academic performance (Friel-Patti, 1990; Roberts and Medley, 1995; Roberts, Wallace, and Henderson, 1995).

HOW IS COMMUNICATION LINKED TO LITERACY DEVELOPMENT?

Lonigan, Burgess, and Anthony (2000) discuss the concurrent development of oral language, and emergent reading and writing. They share an interdependency from an early age even in the absence of formal literacy instruction. Learning to read involves associating written words with spoken words and requires well-developed verbal language skills. Written and verbal language share many processes and knowledge sources, thus their development quickly



becomes interdependent. Research suggests that children with persistent language disorders are at significant risk for academic, behavioral, and social-emotional challenges (Catts, Fey, Tomblin, & Zhang, 2002). Children may have difficulties reading and writing that, in turn, have an impact on academic achievement. In addition, these children often have impairments associated with appropriate use of language in conversation, with consequent difficulties with peer inclusion and social interaction (New York State Department of Health, 1999).

In summary, as children develop the ability to understand and produce spoken language, they simultaneously develop the foundations of reading and writing skills. Children interact with and become increasingly aware of the written word on a daily basis at pre-school, in the community and at home. Children typically demonstrate a growing interest and appreciation for verbal and written language, as evidenced by their meta-linguistic development (i.e. the ability to manipulate language as an entity apart from its meaning). Caregivers can observe the intensity and enjoyment a young child shows as he/she scribbles, points out logos or draws a picture from experience. These are indicators of early reading and writing skills. This stage of early speech and language development is known as the emergent literacy stage and ranges from birth through kindergarten. Early literacy knowledge is strongly and reciprocally influenced by children's verbal language proficiency. Preschool children who have difficulties acquiring and becoming proficient with verbal communication due to language disorders, phonological, developmental disorders, or organizational disabilities are at a significantly increased risk for delayed achievement of literacy skills.

Four key principles from current research provide a foundation for establishing the relationship between oral proficiencies and literacy development (ASHA, 2001)

1. Language provides the foundation for age-appropriate development of literacy.
2. There is a strong, interconnected relationship between verbal language and other developmental milestones. Research suggests that explicit awareness of the speech sound system (i.e. phonological awareness) is related to reading development (Swank & Catts, 1994).
3. Children with speech and language impairments are four to five times more likely to have problems with early conventional literacy than normally developing children (Neuman & Dickinson, 2001).
4. Language intervention can positively influence literacy development (Justice, Invernizzi, and Meier, 2002). Intervention for phonological and language deficits positively impact later academic achievement (Scarborough, 1998; Neuman & Dickinson, 2001).

Considering these findings, it is clear that the three "Ls", Language, Learning, and Literacy, are tightly connected and can be viewed as integral parts of a powerful whole. Positive results in one area can result in increased function in another area and serve to prevent or lessen related problems. Prevention, early identification and remediation of language disorders can offset existing or future learning disabilities to ensure that children achieve their full potential (Paul, 2000).

WHEN ARE CHILDREN AT-RISK FOR COMMUNICATION DELAYS?

Many believe that language disorders do not occur until a child begins talking. In fact, children understand many concepts and rules of language before they produce their first word. For example, babies respond to sounds of their native language differently from foreign languages. Emerging language skills are also evidenced by variability in infant cries and nonverbal communication of needs and wants from ages birth to three years. Most experts agree that it is important to identify children with developmental delays or disorders as early as possible. Early intervention may reduce detrimental consequences of these disorders in both the long and short term (Guralnick, 1998). This section of the Birth through Kindergarten (B–K) Colorado Communication Guidelines provides a rationale and specific examples for the prevention of communication delays and promotion of communication development.

Language delay is the most common type of developmental issue observed in preschool children. Research suggests that up to ten percent of children in preschool (2 to 3 years old) may have a communication disorder (Rescorla & Schwartz, 1990). Children with communication disorders make up 25% to 50% or more of those children eligible for

early intervention programs (Goodman, 1998; McLean & Cripe, 1996). Early identification and early intervention is especially important for children with more involved communication disorders (McLean and Cripe, 1996). However, it is equally important for children who are at-risk for developing communication/literacy disorders (Justice, Invernizzi, & Meier, 2002). For example, a significant relationship has been established between delayed or disordered reading abilities and an early history of phonemic awareness difficulties. Seventy-three percent of second grade children with reading difficulties also presented with spoken language and/or phonemic awareness problems in kindergarten (Catts & Kamhi, 1999). A child “at-risk” may be defined as one who presents with “risk factors/red flags/alerts” or “clinical clues.” These risk factors are delineated as current, historical, and/or observable behaviors or findings that suggest that a child is at increased risk for developing a disorder. Some recognized risk factors include, but are not limited to:

- Medical conditions (e.g. premature birth, low birth weight)
- Genetic chromosomal abnormalities (e.g. Down Syndrome)
- Biological congenital conditions (e.g. Cerebral Palsy, Autism Spectrum Disorder)
- Biological metabolic disorders (e.g. Infant PKU)
- Biological Environmental exposures/conditions (e.g. Rubella, Fetal Alcohol Syndrome)

WHAT FEDERAL AND STATE MANDATES GOVERN EARLY CHILDHOOD SERVICES?

Speech-language pathologists recommend early assessment and regular monitoring of speech and language skills in children who are reported to have the aforementioned risk factors (Paul, 2000). Evidence clearly suggests that early, ongoing, targeted intervention increases the potential for children's success (Lyons, 2001). In Colorado, as well as across the nation, young children are provided child find and special education services through the mandates of Part C (IDEA/Part C, P.L. 105-17; Colorado Revised Statutes Title 27, Article 10.5) and Part B (IDEA/ Part B, Section 619, P.L. 105-17; Rules for the Administration of the Exceptional Children's Education Act, Article 20 of Title 22, C.R.S. (ECEA)).

WHAT IS IDEA AND NCLB?

Historically, children who have communication disorders have been served in school settings since the passage of the 1975 *Education for All Handicapped Children Act* (EAHCA). This statute gave children with disabilities the right to *free appropriate public education* (FAPE) in the *least restrictive environment* (LRE). In 1986, early intervention and early childhood special education services were introduced, and in 1990, the statute was reauthorized and renamed the *Individuals with Disabilities Education Act* (IDEA, 2004). In 1997, Congress reauthorized IDEA with a focus on providing children with disabilities access to the general curriculum (34 C.F.R. 300.347 (a) (1) (i)). The primary intent was to: 1) provide the same curriculum that is provided to children without disabilities; 2) raise expectations for the academic performance of children with disabilities, and 3) improve their educational results. Four years later in 2001,

Congress passed the No Child Left Behind Act (NCLB) requiring states to promote equal opportunities for all children to receive a high-quality education and attain proficiency on state achievement standards and assessments. Three years later, the tenor of NCLB heavily influenced the reauthorization of IDEA which was then renamed the Individuals with Disabilities Education Improvement Act of 2004 (IDEA, 2004). In this reauthorized law, Congress revised "general curriculum" to be more specifically addressed as "general education curriculum", thus emphasizing the educational component of services and supports delivered to children with disabilities.

HOW DOES IDEA ADDRESS COMMUNICATION DISORDERS?

IDEA 2004 includes two statements relevant to children with communication disorders within special education programs. First, personnel preparation and intervention practices were addressed. High-quality intensive pre-service preparation and professional development for all personnel who work with children with disabilities was mandated to ensure that such personnel have skills and knowledge necessary to improve the academic achievement and functional performance of children with disabilities, including the use of scientifically-based instructional practices, to the maximum extent possible (20 U.S.C. 1400(c)(5)(E)). Additionally, the legislation of IDEA '04 supports NCLB initiatives by placing a strong emphasis on prevention and intervention. It states the importance of redesigning policies and procedures that address providing incentives for whole-school approaches, scientifically based early reading programs, positive behavioral interventions and supports, and early intervening

services to reduce the need to label children in order to assess the learning and behavioral needs of such children. (20 U.S.C.1400(c)(5)(F)).

WHAT ARE EARLY INTERVENING SERVICES?

Another provision in IDEA 2004 is the emphasis on early intervening services. Early intervening in this context refers to identifying problems at an early stage, before they have significantly affected academic performance and development. Local education agencies may now use up to 15% of their IDEA allocation to develop and implement coordinated early intervention education services for K-12 children who are not receiving special education services but require additional academic and behavioral support to succeed in the general educational environment. A specific focus on children in K-3 is strongly recommended. In Colorado, activities that may be supported include professional development designed to deliver scientifically based academic, and educational and behavioral evaluations, services and supports, including scientifically based literacy instruction.

WHAT IS COLORADO'S SYSTEM FOR CHILD SUCCESS?

In summary, current federal and state special education guidelines encourage a paradigm shift away from a “wait to fail” model to a model that emphasizes the universal application of primary prevention practices - the inclusion of all children in comprehensive intervention programs designed to reduce the incidence and prevalence of later language, learning and literacy failure. In contrast to the linear historical model, this model is not based on assumptions of deficit, and instead provides children and caregivers with dynamic, effective, multi-tiered interventions

that are closely monitored for positive responses. With this multi-tiered model (Figure 2.1) as a framework, these guidelines support use of an appropriate service delivery model for SLPs serving the early childhood population. This broad-based model allows for the provision of language-rich, explicit, embedded, consultative and co-teaching services to general education teachers, parents and families at the first tier level. In addition, the model employs focused, targeted and differentiated services at the second tier. Lastly, the third tier is reserved for those children whose needs require highly specific, intensive therapeutic interventions. Appendix F provides a summary of the components of Response to Intervention (RtI).

WHAT DOES IT MEAN TO EMPLOY GOOD PRACTICE THAT IS BOTH EVIDENCE-BASED AND NEEDS-BASED?

The concept of “Good Practice” is used to denote the use of research-based effective techniques resulting in objective and measurable interventions for children who experience communication disorders and disabilities. In the past, the misnomer “best practice” led one to believe that one intervention was better than another. “Good Practice”, in fact, recognizes that individual strengths and weaknesses of a particular child may be very different from those of another child, thus guiding the intervention in a different direction. “Good practice” is driven by evidence, results or outcomes. Evidence-based practice (EBP) does not refer to a singular focus in using research to make decisions but rather emphasizes the systematic, deliberate integration of basic science and clinical findings to arrive at a decision or conclusion. Evidence-based practice provides a climate of accountability that emphasizes personal

the richest source of information about a child's development and are the primary providers of language/literacy development for their children.

Information provided by the parents and other caregivers may lead to early identification of possible problems. At a later stage, information provided by parents is crucial for an adequate assessment of the child's communication skills, in addition to the progress the child makes in developing age-appropriate linguistic skills. Services for infants, toddlers or children and their families fall into three categories of expected outcomes including prevention, remediation and compensation (ASHA, 1989).

Parents are generally present during diagnostic sessions, and observation of child-parent interactions is an important aspect of the assessment process. Parents also have an important role in providing professionals with important information to make decisions about diagnosis and treatment goals for the child. Research suggests that guidance and participation from the adult caregivers during the intervention process results in the highest degree of success. (Justice, Weber, Ezell, and Blakeman, 2002) Because parents play a critical role in the identification and assessment process, there is a need for parents to better understand children's communication development. Informing and involving the parents provides an opportunity for them to be active participants in the care and provision of services for their child. For infants and toddlers who demonstrate or are at risk for developing disabilities, parents and caregivers are an integral part of designing and implementing service. This

idea is simply portrayed in the statement, "Therapy is what happens BETWEEN intervention sessions". (Link to the CDE website "Parent Counseling and Training," September, 2002.)

WHAT MAKES FOR HIGH QUALITY EARLY CHILDHOOD PRACTICES?

Children are born ready to learn, but not ready for school. Infants' earliest relationships with their caregivers are closely linked to later success in the classroom. These early interactions form the basis of children's social and emotional well-being, which in turn influence the ability to attend to important tasks associated with learning language and developing intellectual competency.

In some cases, caregivers who work with infants and toddlers do not put research findings to good use. "Unfortunately, despite the recommendations from the scientists, most school readiness initiatives persist in relating to infants and toddlers as though they were older. But because of their unique style of learning, which is a blend of great vulnerability and incredible learning competence, they need to be treated differently from how you treat first graders. In effective early learning settings, children learn they have someone to rely upon. Children feel secure, and thus become more eager to try new things. With guidance, they learn to persist and experience mastery. The lessons learned from these early interactions and relationships form the basic building blocks for later learning. One goal of early childhood

education is to help children develop sufficient self-confidence and self-regulation to allow for academic exploration and the ability to function in a classroom setting. (<http://www.wested.org/cs/we/view/rs/794>). Specific infant-toddler responsive practices that support communication development include:

1. Involving the child in care giving routines
2. Establishing and maintaining an environment that allows the child to fully express him/herself at a self-determined pace
3. Providing and encouraging early literacy opportunities throughout the child's daily activities

It is becoming common practice to find early childhood educators, early childhood special educators and speech-language pathologists working side by side in preschool settings. They share similar educational goals and recommended practices, making it possible for them to work well together in a collaborative setting. Specifically, all three disciplines utilize a

team of staff members, individualize children's learning experiences, emphasize social skills and plan a range of curriculum opportunities that allow for development across all learning domains. Collaborative efforts allow for communication needs to be identified early and, addressed appropriately in responsive, naturalistic environments. We can identify three elements necessary to create a high quality early childhood program (Adger, Snow, & Christian, 2002):

- A highly qualified provider
- High quality instruction/interactions
- An environment that supports the instruction and the provider

An environment that supports and promotes speech, language, and literacy development is often labeled "Language-Rich". This environment is not just a well-organized or well-appointed physical space, but a setting that is created with a philosophy that directs language and literacy development and instruction. A team-based program typically designs and implements speech



and language plans that address phonological awareness, vocabulary, sound production, print awareness, and oral expression within the daily routine (Justice, 2004).

High-quality state preschool programs encompass 10 characteristics, according to the *National Institute for Early Education Research*. Please note these characteristics and apply them to your early childhood efforts.

Curriculum standards

Preschools have age-appropriate, comprehensive curriculum standards that cover language and literacy, math, science, social and emotional skills, cognitive development, health and physical development and social studies.

Teacher degrees

Lead teachers hold at least a bachelor’s degree.

Teacher-specialized training requirement

Pre-service requirements include specialized preschool training with additional training in early childhood, rather than endorsements in kindergarten or elementary teaching.

Assistant teacher degree requirement

Assistant teachers hold at least an associates degree in child development or equivalent training.

Teacher in-service requirement

Teachers attend at least 15 hours of professional development each year.

Class size

Class size should be no bigger than 20 children for 3- and 4-year-olds.

Child/adult ratio

The staff-child ratio is 1:10.

Screening requirements

Screening and referral services covering vision, hearing, and health are required.

Required support services

Support services are offered for families of enrolled children or the children themselves. These include home visits, parental training and information on nutrition.

Meal requirements

All enrolled children receive at least one meal a day.

WHAT DO TEACHERS NEED TO KNOW ABOUT LANGUAGE AND EARLY LITERACY?

Considerable evidence now exists that supports the long-lasting positive consequences for children’s success in school and later life, especially for children from low-income families (Barnett, 1995). Unfortunately, such high-quality programs are not available for all children who need them. In fact, only about 15% of childcare centers are judged to be of good or excellent quality. Almost 60% are considered mediocre and another 15-20% is deemed inadequate or harmful (Cost, Quality, and Child Outcomes Study Team, 1995). As noted above, there are key elements that support optimal child outcomes. Highly qualified teachers who provide effective instruction and responsive interactions in child friendly environments are critical components of productive early childhood settings. Currently it is easier to identify the elements and outcomes that reflect a high quality environment than it is to address the provider and the instruction. The early childhood preparation program and

training has a broad range of qualifications/ standards that is sometimes uneven resulting in large turnovers in providers. Given the range of teacher qualifications, the minimum standard for knowledge about language that teachers should possess is important to consider. A key role for speech-language pathologists is to ensure, through demonstration and modeling, that the early childhood teachers they collaborate with are sufficiently knowledgeable about language (Adger et al., 2002).

One aspect of language that is critical to the educational progress of young children is the development of emergent literacy skills. Justice (2004) has dedicated the past seven years of research to understanding literacy. Most recently her focus is on emergent literacy among preschoolers who are at-risk. The term emergent literacy is used to describe preliterate children's skills related to reading and writing before their achievement of conventional literacy. Emergent literacy, acquired in the early years is viewed as the developmental precursors to children's attainment of fluent skilled reading ability. These skills housed in the foundations of sound and language developmental skills provide the underpinnings of children's subsequent transitions to early or beginning reading. Her work, along with others, provides a direction for the types of interventions that can be successful working with children identified with speech and language disorders. This research provides a basis for evidence based practice for the early childhood SLP in the areas of language, learning, and literacy (Justice, 2004; Justice & Pullen, 2004).

Justice identifies four main components to consider in emergent literacy:

Phonological Awareness

Awareness of the sound structure of spoken language at the level of the word syllable onset rhyme and phoneme. At each level skills compromise both blending and segmenting.

Print Concepts

Knowledge of how print is organized including relationships between written language units and the metalinguistic terminology used to describe print, such as "letter, word, or write." It also includes understanding of how books are organized, the form and functions of environmental print, differential features of various print genre, and developmental writing skills.

Alphabet Knowledge

Knowledge of the name of individual letters in both upper and lower case formats and their sounds.

Literate Language

Use of specific syntax/semantic features characterizing written texts (adverbs, conjunctions, verbs, elaborated noun phrases) to explicitly render meaning in decontextualized text.

IS COMMUNICATION/LANGUAGE DEVELOPMENT DIFFERENT IN CHILDREN WHO ARE RAISED IN BILINGUAL OR MULTILINGUAL HOUSEHOLDS?

Research has shown that young children, who are raised in bilingual or multilingual households, are not at a disadvantage when learning language, (Pearson et al., 1993). Nonetheless, the early expression of language by children in bilingual/multilingual households may vary somewhat from those children who are raised in a monolingual environment. There are many variations of a bilingual/multilingual household that might impact the language learning process in the very young child. These include, but are not limited to:

- Children with a non-English monolingual family (e.g. the child may only watch television in English)
- Children within a bilingual or multilingual family
- Children who receive regular care in a language environment different from the language of the family (NY Guidelines, 1999)

If a child is learning two languages at home, language expression may be delayed (e.g. expression of phrases occurs later than peers) and language dominance may be observed (e.g. child demonstrates a greater output in one of the languages) (Pearson & Fernandez, 1994). Some children that come to school and are immersed in a new language are silent for a period. These occurrences may be due to peer response to communication abilities of the bilingual/multilingual child which may affect the rate of language acquisition. If a child's initial communication attempts are greeted with eye contact, acknowledgement, expansion and encouragement the language is likely to develop

more rapidly. It is also possible that children in bilingual/multilingual environments will develop receptive and expressive language skills at different rates. Additionally, a child in a bilingual/multilingual environment may mix languages during language acquisition. While ages of acquisition of language may vary based on many of the factors mentioned previously, the stages in typical communication development are largely the same. One overriding point is that language development should continue to move forward.

Appropriate assessment of communication and identification of communication disorders can be challenging with children from bilingual/multilingual households. Distinctions must be made between language disorders and typical language within the bilingual child's linguistic and cultural environment. Appropriate assessment of a child's communication development will take into account languages and dialects spoken within the child's home and other places of care, while simultaneously considering the cultural impact on communication development. Although a variety of standardized tests are available for Spanish speakers, there are no current tests available for many other languages, such as Korean, Chinese and Russian.

Throughout the evaluation process and provision of services, respect for the native language should be of the utmost importance. Encouragement of literacy in the home language appears to promote literacy development as the child begins school. Promoting early literacy development has been found to increase the academic success of children in the United States.

WHAT ARE SOME CULTURAL AND LINGUISTIC VARIATIONS?

A *difference* in language development is not a *deficit*. The issue of language differences vs. delays/disorders is an essential consideration in the accurate assessment of communication disorders in children from bilingual/multilingual households. Many times, differences in language structure impact the way in which children learn language; therefore, it may appear that a child learning English and Spanish presents with a language delay when, in fact, it may be a normal variation in the process of learning more than one language.

In addition to linguistic differences across languages, cultural differences in communication and learning exist. These differences are found in verbal and non-verbal communication, communicative and narrative styles, rules for adult-child discourse, and conversational roles of young children and culturally based learning style preferences. Even within only one language, there may be more than one dialect accepted by the community of that language's speakers. It is important to note that a regional, social or cultural/ethnic variation of a language system is not considered a disorder of speech or language.

IS COMMUNICATION DEVELOPMENT DIFFERENT IN CHILDREN WHO ARE RAISED IN HOMES THAT USE A VARIATION OF ENGLISH?

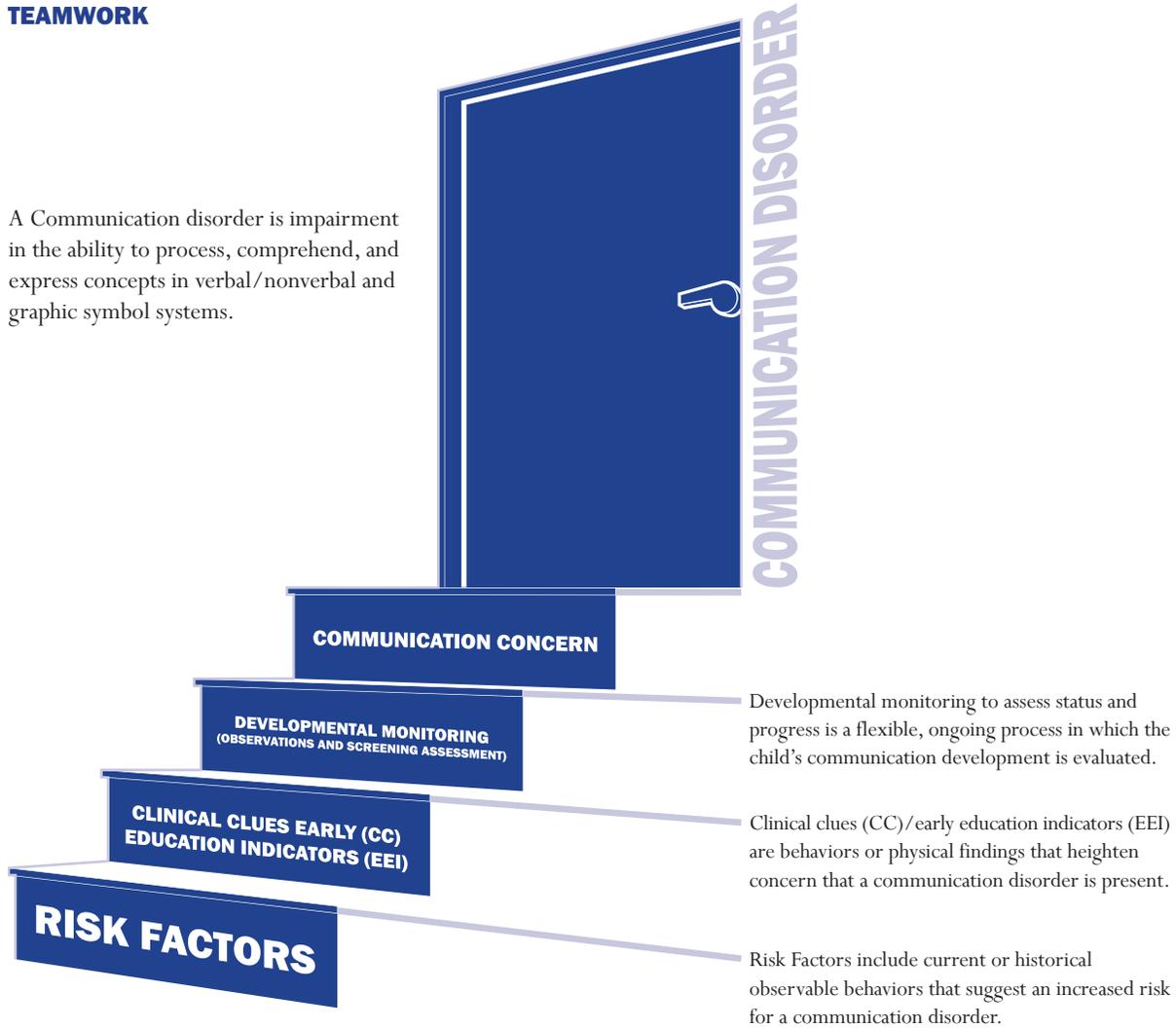
Many young children live in homes where a variation of English, such as *African American English* (AAE), or *Spanish-influenced English* is used. The language variation may occur in language form, language content, and/or language use. When considering the possibility of a communication disorder in any child who

speaks a variation of Standard American English, it is important to distinguish between features of language attributable to language variation, those attributable to development, and those indicative of a disorder (Colorado Communication Guidelines, 2001; NY Guidelines, 1999).

The available data indicate that the children birth to two years old that learn language in environments where AAE is the predominant language can be expected to follow the same course of development in syntax, morphology, semantics, and phonology as children developing Standard American English (Cole, 1980). The features that typically distinguish AAE and SAE involve phonological and morphological features that do not typically develop until after the age of 4 or 5 years. Blake (1984) and Stockman (1986) have shown that the morphological development of young children who speak AAE is similar to that of children who use SAE up to age 3, including the development of mean length of utterance (MLU). At the age of 3 years, children learning AAE have developed the use of well-formed multi-word sentences, use appropriate question forms, and have begun to use complex utterances with appropriate subjects, verbs, and complements (Stockman, 1986; Stockman, 1996). See Appendix I for the Minimal Core Competency Checklist, and Appendix H for information on Colorado's 8 Step Model, English Language Learners with Exceptional Needs—ELLEN). More in-depth information on Native American differences and Children of International Adoption can be found in Appendix J.

THE STEPS TO IDENTIFICATION OF A SPEECH LANGUAGE /COMMUNICATION DISORDER ARE BEST TAKEN WITH CAREFUL MONITORING AND TEAMWORK

A Communication disorder is impairment in the ability to process, comprehend, and express concepts in verbal/nonverbal and graphic symbol systems.



HOW MIGHT THIS MODEL DRIVE OUR THINKING ABOUT THE IMPACT OF CHRONIC EAR INFECTIONS AND HEARING LOSS ON LANGUAGE, PHONOLOGY AND LITERACY?

- 1. Risk Factors:** A history of chronic ear infections and hearing loss are well documented risk factors for communication disorders.
- 2. Clinical clues:** If a parent notices that a child is not producing spoken words at 18 months of age, this would be a clinical clue suggesting a possible communication disorder.
- 3. Early education Indicators:** Research provides evidence that speech/language delays are indicators of emerging literacy and learning disorders.
- 4. Developmental monitoring:** Observations and or screenings are made by parents and professionals familiar with the child.

WHY IS IT IMPORTANT TO IDENTIFY CHILDREN WITH DEVELOPMENTAL DELAYS OR DISORDERS AS EARLY AS POSSIBLE?

Intervention at earlier stages in a child's development may have a greater chance of reducing the short term and long term negative consequences of communication disorders (Guralnick, 1998). This section provides recommendations for identifying and assessing communication disorders in young children. Differentiating typical versus atypical speech-language development requires monitoring of developmental milestones, attending to evidence-based risk factors, and observing well-defined educational indicators or clinical clues.

Various clues become apparent at different stages in the developmental process, which may alert parents or professionals to the existence of a possible communication disorder. Early identification of children with communication disorders, as with other developmental disorders, involves a number of people and resources. In some cases, observation of certain behaviors or a lack of progress of a child's development may alert parents or other caregivers to the possibility of a communication disorder. In other cases, concerns about a child's communication may first be noted during developmental monitoring at health care visits or while the child is in the environment of childcare professionals.

A concern regarding the possibility of a communication problem may lead professionals to conduct more selective screenings for hearing, speech, or language development. This, in turn, facilitates identification of additional clinical clues or early education indicators, which provide insight into communication concerns. Once a communication disorder is suspected, screening and/or assessment of the child's skills may be indicated.

HOW DO WE USE RISK FACTORS AND CLINICAL CUES/EARLY EDUCATION INDICATORS?

Risk Factors are defined as current or historical observable behaviors or findings that suggest increased risk for the development of a communication disorder. For example, a history of chronic ear infections and hearing loss are well-documented risk factors for communication disorders.

Clinical Clues (CC) are defined as specific behaviors or physical findings that alert people involved in the care of a child to the possible presence of a communication disorder. For example, if the parent notices that a child is not producing spoken words at 18 months of age, this would be a clinical clue suggesting a possible communication disorder.

Early Education Indicators (EEI) are specific behaviors or physical findings that alert people involved in the care of a child to the possible presence of a communication disorder that is linked to language skills acquired at later stages, learning, and/or literacy disorders. Clinical clues and early education indicators are more easily recognized and identified as children achieve developmental milestones. See Speech Language Milestones and Clinical Clues (CC)/ Early Education Indicators (EEI)

HOW ARE RISK FACTORS IDENTIFIED?

Identification of risk factors, CCs and EEIs for communication disorders is a primary component of the Birth through Kindergarten (B-K) assessment process. Some risk factors and clinical clues can be identified at a very early age; while others are not as apparent and may not be recognized until caregivers and

professionals determine that the child's use of language is delayed. In general, risk factors for communication disorders identified during infancy are closely related to biological and social-environmental factors. Table 3.1 shows some biological conditions and circumstances that are associated with increased risk for developmental and communication disorders. Appendix I includes information on genetic/chromosomal conditions.

It is important to note that the presence of risk factors or clinical clues does not provide sufficient information for the ultimate diagnosis of a communication disorder.

Risk factors, CCs and EEs, at times, seen in children who are typically developing and do not have a communication disorder. Therefore, recognition of a risk factor, clinical clue or early education indicator is simply the first step in the process of identifying children with communication disorders possibly necessitating further assessment.

One important method for early identification of children with possible communication disorders is to ensure the child takes part in systematic developmental monitoring to identify risk factors, clinical clues, and early education indicators.

TABLE 3.1 CONDITIONS AND CIRCUMSTANCES THAT MAY LEAD TO RISK FACTORS

CONDITIONS AND CIRCUMSTANCES

Pre-term birth; low birth weight; treatment for any length of time in neonatal intensive care unit

History of intubations, failure to thrive, feeding difficulties

Safety and quality of life considerations

Anoxia, at birth or immediately afterward; positive toxicology screen at birth

Chronic Otitis Media; Hearing problems

Family history of cognitive limitations, language and /or learning problems

Persistent health problems and or prolonged hospitalizations

Traumatic brain injury (TBI), radiation exposure

Genetic/Chromosomal conditions (See Appendix for examples)

Biological/congenital conditions (i.e. Cleft Palate Cerebral Palsy, Autism Spectrum Disorder (ASD))

Biological/metabolic conditions (e.g. mucopolysaccharidose)

Environmental: prenatal/ postnatal exposure to teratogens (alcohol/street drugs), infections, CMV, FAS, FAE, HIV, Rubella

WHAT IS DEVELOPMENTAL MONITORING?

There are various methods that can be used to monitor children’s general development. One effective method of parental and professional developmental monitoring is observation of a child’s development compared with critical, age specific “speech language developmental milestones.” Developmental speech progress monitoring most accurately describes the approach currently practiced by many health care providers, parents, care-givers, and other professionals for the early detection of various developmental problems.

The process of developmental monitoring includes the following components:

- Eliciting and attending to parents/caregivers concerns
- Obtaining a complete developmental history
- Observing children accurately and regularly in natural environments
- Sharing opinions and concerns with other relevant professionals.

Developmental monitoring may involve the use of parent questionnaires and standardized tests. Developmental questionnaires and checklists completed by parents will facilitate involvement in monitoring their child’s development. Formal tests of general development can also be conducted by caregivers or early childhood professionals.

A critical component of general developmental monitoring is a formal evaluation of speech and language skills. Many studies have examined the sequence, patterns, and timing of typical speech and language development in young children. As a result, “speech and language milestones” have been determined and can be used as a reference by

which to monitor the child’s speech and language development as part of the ongoing developmental monitoring process.

HOW IS ASSESSMENT USED WITHIN THE IDENTIFICATION PROCESS?

Assessment is the process of observing, gathering, and/or recording information. This information is gathered primarily for the purpose of making evaluative decisions. Testing is a formal systematic procedure for gathering a sample of a child’s behavior that is used to make generalizations about how a child would have performed on similar but untested items.

The purpose of assessment is to identify or describe an infant, toddler, or a young child’s pre-linguistic abilities and/or speech and language interactions. It should also include caregivers’ methods of support for these assessments.

Assessment is prompted by risk factors, clinical clues, and/or early educational indicators or as needed, requested, or mandated. Assessment outcomes contribute to the diagnoses of a communication disorder.

Once a communication disorder such as a language delay is suspected, a speech-language pathologist then conducts an assessment to determine the presence of a disorder. This determination is based on criteria outlined by rules and guidelines at the state and school district level, and may also involve local service providers and agencies.

The assessment of infants, toddlers, and young children require the use of procedures to assess pre-language and language systems in infancy and early childhood, delineating strengths, deficits, contributing factors, and family needs for fostering functional communication development. Assessment procedures are usually derived from one or two broad assessment approaches: qualitative or quantitative.

WHAT ARE QUANTITATIVE ASSESSMENT STRATEGIES?

Quantitative Assessments are typically more traditional and formal. They tend to focus on isolated aspects of development that are easy to observe and measure. These tests yield information on a preset content and have specified guidelines for administration. Information in this format is usually collected once and is compared to standardized norms. The use of standardized tests raises concerns, especially when evaluating young children. The younger the child, the more difficult it can be to obtain valid and reliable results. Growth in the early years is rapid, episodic and highly influenced by children's emotional/motivational states and by the assessment conditions. Test scores should be interpreted as part of a broader assessment that may include observations, rating-scaled and caregiver impressions.

A single test should not be used to make policy decisions that impact eligibility for or the type and/or amount of services a child receives

WHAT ARE QUALITATIVE ASSESSMENT STRATEGIES?

Qualitative Assessments are described as informal. They consist of structured, systematic observations of behaviors within meaningful, context-bound activities. (e.g. observations of a child requesting a toy). This information may be gathered in an ongoing manner across multiple contexts. Informal assessment can include, but is not limited to:

- Descriptive (e.g. a detailed account of a child's verbatim language sample)
- Narrative (e.g. a record of a particular event or observation)
- Categorical: events and behaviors coded on an instrument during or after observation (e.g. checklists and rating scales).

WHAT COMPONENTS SHOULD BE INCLUDED IN EACH ASSESSMENT?

It is recommended that an assessment include the following components, gathered by the SLP or other members of the Child Find team:

- Review of auditory, visual-motor, and cognitive status
- Developmental history
- Medical history (if not included elsewhere)
- Interview, observation, and/or description of parental/caregiver support of infant, toddler, and/or young children's communication skills, behaviors, and attempts
- Primary language used in the home
- Standardized and/or non-standardized evaluations that describe spoken language expression, spoken language comprehension, and/or gestural communication (sign language if child has a hearing loss)
- Parent/caregiver report of communication and language behaviors that appear regularly but may not occur during the time of assessment. It is important to note that a parent/caregiver report is an important component. The information they provide should be used to supplement observations of the child.
- Pertinent information from other disciplines (e.g. early interventionists, developmental pediatricians, physical therapists, occupational therapists) about issues such as social interactions, play, and feeding.
- Pertinent information about hearing status, age of onset, and age of diagnosis, type and severity of hearing loss, etiology, and potential for residual hearing, type and effectiveness of amplification/cochlear implant, preferred communication approach, parent values, goals and philosophy

Table 3.2 provides a quick review of the definitions for some major types of quantitative and qualitative assessments along with their advantages and disadvantages. A list of assessment tools for screenings and diagnostics can be found in the Assessment Tools Appendix L.

WHAT CAN DYNAMIC ASSESSMENT ADD TO THE PROCESS?

Dynamic assessment brings intervention into the assessment process by evaluating the method(s) by which the child learns and the skills the child has/has not acquired. This type of assessment can provide information about the child as a learner and helps determine the specific type of

intervention that will work best for the child. Assessment involves observation of the child's use of strategies as opposed to how the child performs. Specific skills evaluated in this type of assessment include attention, discrimination, planning, self-regulation, transfer, motivation, and interactions. Dynamic assessment can also provide a nonbiased assessment for children from linguistic and culturally diverse backgrounds by focusing on functional skills rather than comparing the child to normative data. (Bilingual children traditionally score lower than their peers on normative tests due to tests' inability to capture the nature of bilingual language development. See Chapter 2). Dynamic assessment offers a testing environment different from a formal question and answer session that

TABLE 3.2 TYPES OF ASSESSMENTS: ADVANTAGES AND DISADVANTAGES

TESTS & ASSESSMENTS	ADVANTAGES	DISADVANTAGES
Norm-referenced tests Qualitative Formal	Designed for diagnosis, Allows for comparison with age/ peer group on an objective or standard, Facilitates comparisons across several domains to assess discrepancies and broad strengths/weaknesses.	Not designed for identifying specific intervention objectives, Norm group is representative of national samples, but may not be representative of the child's background.
Criterion-referenced tests Quantitative Formal	Tests for regularities in performances against a set of criteria, Useful for designing interventions, interfacing with curriculum objectives and describing the level of a child on a continuum of skills.	Not designed primarily for use in making program placement or eligibility decisions; although data can be utilized as part of progress monitoring data for determining response to intervention.
Checklists/Interviews Rating Scales Qualitative Non-formal	Easy to administer and Practical, Can provide a broad evaluation of skills in important areas of development, Addresses focused crucial skills on which referral is based, Assists in fine tuning areas of concern.	Not designed to evaluate peer to age-group level, May be subject to interpretative biases.
Structured Observations Play-based Qualitative Non-formal	Permit guided evaluations and observation of Communication skills in context, Can focus on several aspects at Once, Can be obtained over time, Occurs on-site; based on reality and functional relevance.	Can be time consuming, Presence of observer may alter responses, behavior, Requires trained staff and, many times, video or audio taping.

(Adapted from ASHA Desk Reference Volume 3 1999)

allows for increased chances of spontaneous and natural language utterances and provides the team with a more realistic and accurate assessment of the child's actual language. For these reasons, an assessment team should consider incorporating dynamic assessment into the evaluation process.

HOW IS A TEAM ASSESSMENT CONDUCTED?

Team Assessments are ideal for early childhood evaluations. Multiple perspectives of a child's performance can increase reliability without the need for standardized tests. The primary purpose of an evaluation is to establish the child's developmental status. A variety of professionals are necessary to obtain a clear picture of the child as a whole, beyond speech and language skills.

There are several team models including:

- **Multidisciplinary:** two or more professionals from different disciplines assess the child at different times and share information with the family.
- **Interdisciplinary:** two or more professionals from different disciplines assess the child at different times. They then share information and participate in the decision-making process collaboratively with the family.
- **Transdisciplinary:** one professional facilitates the assessment process while one or more professionals from different disciplines participate by observing and recording data; all share information and participate in decision-making process collaboratively with the family.
- **Arena assessment:** two or more professionals from different disciplines each take turns assessing the child while other members of the team observe; all share information and participate in decision-making process collaboratively with the family. (Roscoe, 2004).

For example, an assessment team might determine the communication abilities of a child who is D/HH. Tests are administered using the preferred

language and communication approach and are conducted by professionals proficient in that approach. This practice assures that assessments reflect an accurate measure of abilities regardless of mastery of spoken English.

Assessment teams seem to function best when the team model and professionals' roles on the team are explicitly defined. One assessment model used in many early childhood settings is Transdisciplinary Play-Based Assessment (2006). Toni Linder, the author of this model writes that Transdisciplinary Play-Based Assessment-Revised is a functional, dynamic developmentally appropriate approach to assessment of young children from birth to six years of age. TPBA-R is a flexible, holistic process that is sensitive to each individual child and family members. TPBA-R involves a team that includes professionals as well as family (parents or other caregivers), who observe the child in play with a selection of both familiar and novel toys and materials in a natural (home or community) or a naturalistic (play) setting. Over the course of one to one-and-a-half hours, the child has an opportunity to play with his or her parents or other caregivers, siblings, or peers, and a play facilitator in a variety of engaging activities that incorporate language, cognitive, sensorimotor, emotional and social domains of development. Using developmental guidelines and age tables relating to each of these domains, the team then interprets observations: to determine the child's level of ability; what, if any, disabilities or concerns are indicated; and what strategies were effective in promoting higher levels of skills or more functional behaviors. In combination with information gained from caregiver assessment tools and from additional tools (standardized, criterion referenced, or other observational measures) the team can present a comprehensive picture of the child from which program needs can be determined and intervention strategies planned.

Transdisciplinary Play-Based Assessment has been widely used across the U.S. and in many countries since 1990. Professionals from numerous disciplines have found TPBA-R to be a practical, functional, holistic, and developmentally appropriate process for infants, toddlers, and preschoolers and their families. For a sample of TPBA-R see Appendix M.

WHAT ARE THE ELIGIBILITY SIMILARITIES AND DIFFERENCES OF IDEA PART C AND PART B?

For Part C, an eligible child is under the age of three who meets the criteria for a child with a

speech-language disability as defined by ECEA 2.02 (7).

Under Part B, an eligible child is three through six years of age who has a communicative disorder which prevents the child from receiving reasonable educational benefit from regular education alone may meet the guidelines for a speech language disability (ECEA 2.02(7)). Table 3.3 provides a comparison of the basic elements for the provision of services to Part C and Part B. It also includes the timelines associated with the process.

TABLE 3.3 COMPARISON OF IDEA PART C AND PART B IN COLORADO

	PART C INFANTS AND TODDLERS, BIRTH TO THREE YEARS	PART B SECTION 619, THREE TO FIVE YEARS
RESPONSIBLE AGENCIES IN COLORADO	Department of Education, Department of Social Services (DDS, DSS, MH, Child Care) Department of Public Health and Environment, Department of Health Care Policy and Financing.	Department of Education, Local Education Agencies (LEA).
GOVERNING LAWS	Individuals with Disabilities Education Act (IDEA)/Part C, P.L. 105-17; Colorado Revised Statutes Title 27, Article 10.5	IDEA/Part B, Section619, P.L. 105-17; Rules for the Administration of the Exceptional Children’s Act, Article 20 of Title 22, C.R.S. (ECEA).
AGES	Children, ages birth through two, inclusive.	Children, ages three through five, inclusive, or an eligible child who is 21/2 and turns three during the first semester of the school year.
GOALS	The focus in on supporting the family to meet the developmental needs of their child with a delay or disability.	The focus is on the child and his/her educational needs.
CHILD FIND	LEA has the responsibility to design a process to inform the public and identify, locate and evaluate children ages birth through 21 who may be eligible to receive special education services. In Colorado, a community wide interagency process is often used to meet this requirement.	LEA has the responsibility to design a process to inform the public and to identify, locate and evaluate children ages birth through 21 who may be eligible to receive special education services.

PART C [TABLE 3.3 CONTINUED]

PART B [TABLE 3.3 CONTINUED]

REFERRAL

Referral may be directly initiated by a parent or other interested persons; Timelines: upon receipt of any referral, a public agency will appoint a service coordinator as soon as possible and within 45 calendar days complete an evaluation and assessment and hold a meeting to develop an Individualized Family Service Plan (IFSP)

Referral may be directly initiated by a parent or other interested persons; Timelines: receipt of written parental permission to assess, assessment, planning, determination of disability, and if disabled, Individual Education Program (IEP) development shall be completed within 45 days.

ELIGIBILITY

An eligible child is one who is under the age of three who meets the criteria of significant delay in development in at least one of the following domains: cognition, communication, physical, including vision and hearing, social or emotional development and adaptive behavior; OR who has a condition associated with significant delays in development.

An eligible child who is three through five and by reason of one or more of the following conditions, is unable to receive reasonable educational benefit from regular education: physical impairment, vision impairment, significant limited intellectual capacity, emotional disability, perceptual or communicative disability or speech/language disability OR may qualify as a child with a disability if multiple sources of information are utilized and such child meets criteria specified in ECEA.

FAMILY INVOLVEMENT

Families must be involved in the IFSP process, An IFSP meeting may not be held without the parent or surrogate parent's participation. Written parental consent is necessary for a child's evaluation and delivery of services. An assessment of the family's resources, priorities and concerns are a voluntary part of the evaluation/assessment process. Parents may refuse any service offered and maintain their right to any services they choose.

Part B of IDEA advocates strengthening the role of parents in the special education process and ensuring that parents of eligible children have meaningful opportunities to participate in the education of their children at school and at home. Families must be involved in the IEP process. The LEA must take steps to ensure that they are afforded the opportunity to participate. Written parental consent is necessary for a child's evaluation and delivery of services. LEA's must ensure that the parents are regularly informed of their child's progress towards annual goals.

TYPE OF PLAN

An IFSP* is a written plan that is used to document desired outcomes for the infant or toddler's developmental growth and learning and the services to be provided to the eligible child and family. IFSPs are reviewed at least once every six months with the service coordinator and rewritten annually. IFSPs must include a statement of the child's present level of development, statement of the family's resources, priorities and concerns, a statement of the major outcomes expected and the criteria, procedures, and timelines used, a statement of necessary early intervention services, a statement of the natural environments in which services will be provided, the projected dates for initiation and anticipated duration, the identification of the service coordinator, and the steps to be taken to support the transition of child to preschool or other appropriate services.

An IEP* is a written document that includes a statement of the child's present levels of educational performance, a statement of measurable annual goals, including benchmarks or short term objectives, a statement of the special education and related services to be provided, a statement of program modification or supports, an explanation of the extent to which the child will not participate in regular class, the projected date for beginning services, anticipated frequency and duration, statement of how the child's progress towards the goals will be measured and how the child's parents will be regularly informed of the child's progress. The IEP must also contain a completed transition plan if applicable.

PART C [TABLE 3.3 CONTINUED]	PART B [TABLE 3.3 CONTINUED]
<p>SERVICE COORDINATION Each eligible infant or toddler and their family must be provided with one service coordinator. The designated service coordinator should be the person who is most immediately relevant to the infant or toddler's or family's needs. That person is responsible for: coordinating all services across agency lines, facilitating connections between families and potential supports and serving as the single point of contact in helping parent obtain the services and assistance they need.</p> <p>Service coordination is an active, on-going process that involves assisting parents of eligible children in gaining access to the early intervention services and supports, coordinating the provision of services and supports, facilitating the timely delivery of services and continuously seeking all services and supports necessary to benefit each child's development.</p>	<p>Under special education law, there is no requirement that a service coordinator be designated for a child and their family. As listed in ECEA, child find coordination includes many components which are a part of service coordination. These are planning and development in the areas of: public awareness, community referral systems, screening and evaluation, service coordination and staff development. Also listed are coordination and implementation in the areas of: interagency collaboration, screening procedures, including vision and hearing, and referral procedures for parents and children about all public and private resources that can meet identified needs.</p>
<p>SERVICES These services are designed to meet the developmental needs of each child and the family's needs related to enhancing their child's development. They are provided by qualified personnel in conformity with IFSP and to maximum extent appropriate are provided in natural environments, including the home and community settings where children without disabilities participate.</p> <p>Services included are:</p> <ul style="list-style-type: none"> ■ Assistive technology devices and services ■ Udiology ■ Family training, counseling and home visits ■ Health services (necessary to enable the child to benefit from early intervention) ■ Medical services (for diagnostic and evaluation purposes only) ■ Occupational therapy ■ Physical therapy ■ Psychological services ■ Social work services ■ Special instruction ■ Speech and language pathology ■ Service coordination ■ Transportation ■ Vision services 	<p>Special education means specially designed instructions; related services means developmental and other supportive services required to assist a child with a disability to benefit from special and regular education.</p> <p>Services included are:</p> <ul style="list-style-type: none"> ■ Assistive technology devices and services ■ Audiology ■ Counseling services ■ Early identification and assessment ■ Medical services (for diagnosis and evaluation) ■ Occupational therapy ■ Orientation and Mobility ■ Physical therapy ■ Psychology services ■ Recreation ■ School health services ■ Social work services ■ Speech language pathology ■ Transportation

	PART C [TABLE 3.3 CONTINUED]	PART B [TABLE 3.3 CONTINUED]
SERVICE DELIVERY	<p>Early intervention services and supports are to be provided in the child and family's natural environments, to the maximum extent appropriate, including home and community locations where infants and toddlers without disabilities participate. Services are developed in conjunction with the family to meet their own identified needs and priorities and are respectful of their unique culture, customs and daily routines, and are delivered in the family's native language.</p>	<p>In special education, to the maximum extent appropriate, children with disabilities are educated with children who are not disabled. Preschool service opportunities vary as to location and characteristics, which impacts the intensity of services and level of personnel involvement.</p>
TRANSITION	<p>Transition planning begins at least six months, but preferably between 9 and 12 months prior to the child's third birthday for all children eligible under Part C or begins as soon as possible for children who are newly identified and are over age two. The process needs to include parents and personnel from the child's current, past and future setting or service providers, including representatives from the LEA, if the child is transitioning to LEA services. If a child is not eligible for Part B/preschool services, the transition team will discuss options of other appropriate services with the family.</p>	<p>A representative of the LEA will participate in the transition process, beginning at least six months but preferably between 9 and 12 months prior to the child's third birthday. Children transitioning into preschool services must meet the state eligibility criteria. In the case of a child who may not be eligible for preschool services, the transition team will discuss options of other appropriate services with the family.</p>

(Note: In the case of a child with a disability, age 3 through 5, LEA may choose to have IFSP serve as IEP.) (See IDEA P.L. 105-17 Section 636 and Federal Register 34CFR Part B, Section 300.342.)

HOW DO SLPS USE THE SPEECH-LANGUAGE MILESTONES CHECKLIST?

The following communication milestones, CCs and EEIs were compiled from a number of sources and were included only when they appeared in more than one professional source. **When utilizing Speech and Language Milestones, attention should be given to the terminology: “typically seen” and “CC/EEI.” While “typically seen” indicates a range, “cause for concern” (i.e. early education indicators) is more closely related to communication behaviors that are outside the parameters of typical development, which necessitate a response.** The speech and language milestones below are listed in a hierarchical fashion. If, for example, a CC/EEI is identified at a younger age, it is likely that it will continue to be a cause for concern at an older age. The Speech Language Milestones Checklist, Communication Profile, and Determination of Eligibility forms are included to assist SLPs in the process of identifying communication disorders. They are ready for use.



INFORMATION

CHILD'S NAME

DATE

DOB

EXAMINER

TYPICALLY SEEN DURING THE FIRST 3 MONTHS

- Looks at caregivers. Maintains brief eye contact during feeding
- Becomes quiet in response to sound (especially speech of a familiar speaker)
- Smiles or coos in response to another person's smile or voice (sounds produced near the back of the mouth)
- Cries differently when tired, hungry or in pain

TYPICALLY SEEN FROM 3 TO 6 MONTHS

- Fixes gaze on face
- Responds to name by looking for voice
- Regularly localizes sound source/speaker
- Cooing, gurgling, chuckling, laughing, squeals (sound produced forward in the mouth vowel-like sounds)
- Vocalizes feelings through intonation
- Uses mouth to explore
- Inspects objects visually
- Discriminates between threatening and friendly voices
- Imitates facial expressions
- Engages in activity with joint attention with adult

TYPICALLY FIRST SEEN FROM 6 TO 9 MONTHS

- Imitates vocalizing to another
- Enjoys reciprocal social games structured by adult (peek-a-boo, pat-a-cake)
- Has different vocalizations for different states
- Recognizes familiar people
- Imitates familiar sounds and actions, attends to singing
- Reduplicative babbling ("bababa," "mamama"), vocal play with intonational patterns, lots of sounds that take on the sound of words, attends to music (e.g. babbling a true consonant with a vowel bababa)
- Cries when parent leaves room (9 months)
- Responds consistently to soft speech and environmental sounds
- Reaches to request object
- Searches for hidden object, attends to pictures
- Vowels emerging

EARLY EDUCATION INDICATORS DURING THE FIRST 3 MONTHS

- Lack of responsiveness
- Lack of awareness of sound
- Lack of awareness of environment
- Cry is no different if tired, hungry or in pain
- Problems sucking/swallowing/feeding

EARLY EDUCATION INDICATORS AT 6 MONTHS

- Cannot focus, easily over-stimulated
- Lack of awareness of sound, no localizing toward the source of a sound/speaker
- Lack of awareness of people and objects in the environment
- Rarely smiles or engages gaze with caregivers
- Problems feeding
- Chronic medical problems

EARLY EDUCATION INDICATORS AT 9 MONTHS

- Does not appear to understand or enjoy the social rewards of interaction
- Lack of connection with adult (lack of eye contact, reciprocal eye gaze, vocal turn-taking, reciprocal social games, imitation)
- No babbling, or babbling with few or no consonants
- Demonstrates no purposeful interactions with familiar objects (continues non purposeful banging or mouthing of objects)

INFORMATION

CHILD'S NAME

DATE

DOB

EXAMINER

TYPICALLY SEEN FROM 9 TO 12 MONTHS

- Attracts attention (vocalizing, coughing)
- Shakes head “no”, pushes undesired objects away
- Waves “bye”
- Indicates requests clearly, directs others' behavior (shows objects, gives objects to adults, pats, pulls)
- Coordinates actions between objects and adults (looks back and forth between adult and object of desire)
- Imitates new sounds/actions
- Shows consistent patterns of reduplicative babbling, produces vocalizations that sound like first words (ma-ma, da-da)
- Looks at pictures in a book for short periods of time when named by an adult
- Responds to no
- Imitates names of familiar objects
- Uses one word to convey entire thought
- Object permanence intact
- Low vowels and front-back vowel emerge

EARLY EDUCATION INDICATORS AT 12 MONTHS

- Is easily upset by sounds that would not be upsetting to others
- Does not clearly indicate request for object while focusing on object
- Does not coordinate action between objects and adults
- Lack of consistent patterns of reduplicative babbling
- Lack of responses indicating comprehension of words or communicative gestures
- Exclusive reliance on context for language understanding
- Does not try to imitate speech sounds
- Does not associate action with result
- Absence of consonants and CV or VC syllable combinations

TYPICALLY FIRST SEEN FROM 12 TO 18 MONTHS

- Single-word productions begin
- Requests objects, points, vocalizes, may use word approximations
- Gets attention: vocally, physically, maybe by using word (“mommy”)
- Understands “agency”: knows that an adult can do things for him/her (such as activate a wind up toy)
- Uses ritual words (“bye,” “hi,” thank you,” “please”)
- Protests: says “no,” shakes head, moves away, pushes objects away
- Comments: points to object, vocalizes or uses word approximation
- Acknowledges: eye contact, vocal response, repetition of word
- Responds to songs and rhymes by vocalizing
- Understands approximately 50 words and says approximately 10-15 words with 7-10 true words
- Initiates turn-taking routines
- Consonants b d g m n (initial)

EARLY EDUCATION INDICATORS AT 18 MONTHS

- Lack of communicative gestures
- Does not attempt to imitate or spontaneously produce single words to convey meaning
- Does not persist in communication (e.g. hands object to adult for help, but then gives up if adult does not respond immediately)
- Limited comprehension vocabulary (understands <50 words or phrases without gesture or context clues)
- Limited production vocabulary (speaks <10 words)
- Lack of growth in production vocabulary over 6 month period (from 12 to 18 months)
- Produces/uses no recognizable consonants

INFORMATION

CHILD'S NAME

DATE

DOB

EXAMINER

TYPICALLY FIRST SEEN FROM 18 TO 24 MONTHS

- Uses mostly words to communicate
- Begins to use two-word combinations: first combinations are usually memorized forms and used in one or two contexts
- Later combinations (by 24 months) code relational meanings (such as “more cookie,” “daddy shoe”), more flexible in use
- Follows 2-step related commands
- By 24 months has 75-150 words (can be approximations of adult form)
- Turns multiple pages in book
- Pats and points to picture when named by an adult, begins to name colorful pictures in a book
- Understands meaning of action words
- Shows interest in simple stories for brief periods of time
- Understands multiword utterances
- Uses early pronouns
- Consonants b d g n m h w (initial)

EARLY EDUCATION INDICATORS AT 24 MONTHS

- Reliance on gestures without verbalization
- Limited production vocabulary (speaks <50 words)
- Does not use any two-word combinations
- Limited consonant production
- Largely unintelligible speech
- Compulsive labeling of objects in place of commenting or requesting
- Regression in language development, stops talking or begins echoing phrases he/she hears, often inappropriately
- Little to no interest in verbal interactions
- Vowel errors, frequent use of glottal stops
- Final consonant deletion

TYPICALLY FIRST SEEN FROM 24 TO 30 MONTHS

- Engages in short dialogues
- Expresses emotion
- Begins using language in imaginative ways
- Begins providing descriptive details to facilitate listener's comprehension
- Narrative development is characterized by collections of unrelated ideas and story elements, loosely linked
- Begins to include articles (“a,” “the”) and word endings (i.e. ‘ing’ added to verbs; regular plural “s” [cats]; “is” = adjective [ball is red]; and regular past tense “ed”)
- Knows the function and purpose of written language – understands words have meaning and purposes
- Points to and names common pictures in a book
- Understands “where” questions
- Begins to sit alone and turn the pages of a book
- Uses developmentally appropriate speech sounds
- Consonants b d p t k m n h s w; all vowels

EARLY EDUCATION INDICATORS AT 30 MONTHS

- Words limited to single syllables with no final consonants
- Few or no multi-word utterances
- Does not demand a response from listeners
- Asks no questions
- Poor speech intelligibility with familiar listener
- Frequent tantrums when not understood
- Echoing or “parroting of speech” without communicative intent
- Can not sustain through a repeatable or patterned shared book reading for a period of 5-15 minutes

INFORMATION

CHILD'S NAME

DATE

DOB

EXAMINER

TYPICALLY SEEN FROM 30 TO 36 MONTHS

- Understands simple who, what, why questions
- Answers yes/no questions
- Uses 2 to 3 words sentences to talk about and request things
- Often asks for or directs attention to objects by naming them following two requests
- Knows a book has a front and a back, how to hold a book, and the direction of print (left to right)
- Comprehends approximately 900 words/has approximately 450 word vocabulary
- Uses prepositions and plurals
- Responds to wh questions
- 71-80% intelligible
- Consonants p b t d k g m n s f h w j l (word initial)
- MLU ranges from 3.0-4-7

EARLY EDUCATION INDICATORS AT 36 MONTHS

- Few or no multi-word utterances including consonant sounds or consonant sequences
- Does not engage familiar family/caregivers in communicative activities
- Can not listen to or maintain attention to an engaging, age-appropriate literacy activity for 5 minutes
- Does not comment or express feelings or physical state
- i, a, e, æ vowels missing or in error
- Unintelligible speech

TYPICALLY SEEN FROM 36 TO 48 MONTHS

- Past tense “ed” forms with (t, d)
- Refers to self as “me”
- Utterances are 3 to 4 words
- Understands differences in meanings (go/stop, in/on, big/little, up/down)
- Follows 2 step unrelated commands
- Answers “where” questions
- Speech is understood by familiar listener most of the time
- Uses modifiers accurately (red ball, big dog)
- Matches colors
- Distinguishes between print and pictures and orients books to turn pages
- Emerging awareness of syllables and rhymes is verbal play
- Beginning and developing letter name knowledge
- Enjoys nursery rhymes, songs and chants
- Recognizes familiar print, such as restaurant logos and signs, may identify them, (e.g. “That says Stop!”) May identify some letters
- Takes turns speaking in conversations
- Vocabulary ranges from 1,000 to 2,000 words (milestones from American Medical Association)
- Emergence of consonant clusters st, sp, pl word initial
- Most common phonological processes cluster reduction, guiding

EARLY EDUCATION INDICATORS AT 48 MONTHS

- Sentences or communications lack detail and correct sequence/order
- Does not use connected language to relate personal events or stories
- Does not use sentences and phrases or multi-syllable words
- Grammatical forms are deleted or consistently in error, including pronouns I, verb + ing
- Unable to follow 2 step related directions with any consistency
- Speech unintelligible to familiar/unfamiliar listeners
- Limited vocabulary < 200 words
- Does not demonstrate any interaction with environmental print or signs
- Does not engage in pretend play
- Presence of continuing phonological process
- Final consonant deletion stopping
- MLU less than 3.2

INFORMATION

CHILD'S NAME

DATE

DOB

EXAMINER

TYPICALLY SEEN FROM 48 TO 60 MONTHS

- Uses many sentences with 4 or more words
- Uses regular 3rd person /s,z/ (e.g. Kathy hits)
- Pays attention to short stories and answers simple questions about them
- Emergence of symbolic pretend play
- Carries on short conversations with peers, and addresses peers by name
- Says rhyming words and recognizes word strings that begin with the same sound (e.g. daddy doggie dandy)
- Recognizes word boundaries and can point to the spaces between words
- Consonant in word initial m p b w n t d k g h f v w r j h s z ʃ tʃ dʒ

EARLY EDUCATION INDICATORS AT 60 MONTHS

- Unable to attend to a story or to answer simple questions with relevance
- Unintelligible speech to an unfamiliar listener
- Avoidance of speaking situations
- Unable to describe a visible picture in a familiar book
- No symbolic play
- Unable to recognize rhyme

TYPICALLY SEEN FROM 60 TO 72 MONTHS

- Complex grammatical development (i.e. embedding, conjoining)
- Vocabulary expands to include abstract words and their meaning e.g. before, tomorrow)
- Pragmatic language competence extends to other discourse behaviors
- Topic introduction, maintenance/changes
- Development of narrative and metalinguistic abilities
- Uses identical grammar as family
- Understands print moves from left to right

EARLY EDUCATION INDICATORS AT 60 MONTHS

- Responses are frequently not relative to questions or topics
- Limited use of verbs, plurals possessives and other language forms
- Communications are limited to labeling
- Speech is difficult to understand by an unfamiliar listener
- Attention to stories is poor
- Unable to maintain topic or string together ideas in a reasonable sequence
- Less than 89.54% consonants correct in monosyllabic words
- Presence of continued phonological processes

TYPICALLY FIRST SEEN FROM 60 TO 72 MONTHS

- Demonstrates an understanding that words can be divided into smaller parts by tapping out/counting the number of syllables in a word
- Names letters in the alphabet and numbers 1-10
- May understand that letters have sounds, begins to learn some of these sounds
- Can identify first sounds in a word (ball starts with B)
- Points to familiar words on page or printed (e.g. That's my Name, That word says No!, That says mom)
- At this level there is a shift in the emphasis of development from oral language to literacy skill development
- Can think about language metalinguistic skills

EARLY EDUCATION INDICATORS AT 72 MONTHS

- Rarely engages in reciprocal communicative interactions with familiar partners
- Does not demonstrate any early literacy knowledge
- Does not know how to hold or open a book
- Does not attend to stories cannot sequence pictures in story format
- No rhyme awareness
- No alliteration awareness
- No syllable segmentation
- No letter knowledge

“A child 3 years of age or older who is unintelligible is a candidate for treatment”

(Bernthal and Bankson 1998 p. 272).

INFORMATION

CHILD'S NAME	DATE
DOB	EXAMINER

COMMUNICATION PROFILE

SIGNIFICANT MEDICAL HISTORY

HEALTH/MEDICAL DX

REFERRAL CONCERNS

HEARING

VISION

PRIMARY LANGUAGE

RISK FACTORS (LIST)

ASSESSMENTS (LIST)

RESULTS Early Education Indicators (list and attach a copy of the milestones checklist)

SUMMARY STATEMENT OF IMPACT IN CHILD'S LIFE

- NONE child's communication development is progressing
- ONE OR MORE child's communication development evidences minimal concerns; yet progress appears steady
- MULTIPLE child's communication development evidences several concerns; slow, limited progress
- NUMEROUS child's communication development evidences significant concerns; minimal progress

RECOMMENDATIONS

SPEECH-LANGUAGE PATHOLOGIST DATE

INFORMATION

CHILD'S NAME	DATE
DOB	EXAMINER

PART C - DETERMINATION OF ELEGIBILITY FOR SPEECH-LANGUAGE DISABILITY

An eligible child is one who is under the age of three who meets the criteria for a child with a speech/language impairment as defined by ECEA 2.02 (7).

PART B DETERMINATION OF ELIGIBILITY FOR SPEECH-LANGUAGE DISABILITY

An eligible child who is three through six years of age who has a communicative disorder which prevents the child from receiving reasonable educational benefit from regular education alone may meet the guidelines for speech/language impairment (ECEA 2.02 (7)).

Identification of a speech-language disability and eligibility for services is a process that includes the following components:

Documentation of events, behaviors and /or conditions that create a concern about the development of a child's communication system. Risk Factors, Clinical Clues, Screening/Assessments.

Demonstration and/or report of the impact that this communication impairment has in this child's life.

Determination and agreement by the team of professionals, parents and caregivers involved in this process that the communication disability exists.

Decision by the team of an intervention or a course of action.

Presence of one or more Risk Factors (documentation)	YES	NO
Presence of one or more CCs/EEIs	YES	NO
Presence of impact in child's life	YES	NO
Agreement of team (must be yes for eligibility)	YES	NO

If the team can responds yes to three out of four statements (including the fourth statement), then the meeting of criteria necessary for a diagnosis of a speech/language impairment as defined in the Colorado ECEA rules may be considered.

NOTES

SPEECH-LANGUAGE PATHOLOGIST	DATE
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HOW IS ELIGIBILITY FOR SPEECH-LANGUAGE SERVICES DETERMINED?

This document is designed to assist teams in making eligibility decisions for speech-language services, based on evidence-based practices, for Colorado's early childhood population. In this context, eligibility should be viewed as a dynamic process and not as a end point or an exact numerical equation. This process is designed to identify the needs of young children and their families to direct them toward effective resources and interventions.

If the process leads to identification of areas of need that meet state, federal and/or administrative units criteria for the diagnosis of a speech/language impairment (SLI), and the team of collaborators (comprised of professionals, parents and caregivers) agree that the impairment interferes with developmental and/or educational performance, then the child may be eligible for special education services. If determination that the child is eligible for special education services is made, then the team of early childhood collaborators would decide on a course of action. If there is disagreement about the eligibility determination decision, then there is a process in place for resolving the disagreement (ECEA, 2005 6.0 3(1)).



WHAT ARE THE ROLES AND RESPONSIBILITIES OF SPEECH-LANGUAGE PATHOLOGISTS (SLPS) IN INTERVENTION?

Once a child is found to need services, whether through the IFSP or IEP team, a decision regarding specific interventions is made. Intervention with young children is dynamic and varies widely in relation to their continually evolving knowledge base. Clearly, young children acquire skills in many ways and at different rates. Early childhood research indicates that children with disabilities learn best when they are actively engaged in an activity, when skills are taught using materials and activities that appeal to the child's interests and when intervention occurs in the environment where children need those particular skills (Bredekamp & Copple, 1997; Sandall, McLean & Smith, 2000).

It is important to note that The Individual with Disabilities Education Act (IDEA, 1997, 2004) emphasizes that intervention for young children needs to occur in natural environments. A natural environment includes settings that are natural or normal for nondisabled age peers including both home and community settings (Sec. 303.18; Sec. 303.12[b]).

A number of factors including student ages, settings, types and severity of communication deficits, availability of other team members, and case and work load may impact roles and responsibilities of SLPs and their selection and use of service delivery models. SLPs must be dynamic and flexible, taking into account all of these factors.

Family Advisor/Professional Development Consultant

An advisor/consultant serves as a resource for parents and children to facilitate their development and meet their needs. In addition, consultant/advisors apply his/her knowledge and expertise in their respective discipline to make suggestions or provide training to others involved in the child's care. This professional provides information that helps parents/family, teachers and caregivers plan, modify and implement instruction, curriculum or programs.

The SLP's expertise can be shared with others and ultimately enhance the young child's learning opportunities. For some children with communication disorders, the SLP may not assist directly, but may work with other special service providers, parents/family, and caregivers

to facilitate achievement of goals. Facilitating developmental or progress monitoring and the child's response to intervention (RtI) in the home, community or educational setting may also be involved.

Provider of Universal Screening and Monitoring Services

A screener/monitor utilizes universal screening techniques to both identify and monitor children at-risk. In this role, the SLP uses his/her knowledge about the principles and methods of prevention of communication and swallowing disorders in young children to facilitate early recognition and assessment of possible communication disorders.

Additionally, the SLP can provide accurate information to parents/family and caregivers to facilitate their understanding of the need for appropriate screening and monitoring of possible communication disorders and related concerns. SLPs may also collaborate with other professionals to identify risk factors related to communication development in children from birth through five years of age (ASHA, 1999a) (e.g. use of an informal checklist to identify children with phonological awareness needs in preschool or kindergarten classrooms). This role appears in many Tier I or Level I RtI or problem-solving models in P-12 settings.

Joint Planner

A joint planner is a planning team member who works with parents and colleagues to develop a Response to Intervention (RtI) plan, an Individual Educational Plan (IEP) or an Individual Family Service Plan (IFSP). The SLP certainly plays an integral role in planning and designing programs for young children with communication disorders. In addition, his/her repertoire of skills

and proficiencies can be helpful when shared with colleagues to develop plans to benefit the child's learning and/or development. (e.g. working with parents and colleagues to develop literacy acquisition plans for English Language Learners).

Collaborative Consultant

A collaborative consultant recognizes the value of collegiality and works in tandem with others to meet goals. This role encompasses all others. Regardless of the SLP's roles or tasks, at the core of collaboration is this notion: Our work in therapy is informed and enhanced by the expertise and experience of others (Erhen, 1994). Examples of this collaborative role include providing parental assistance to develop strategies for shared book reading experiences for their young children and teacher or caregiver instruction in using phonological awareness materials.

Demonstrator and Model

This SLP role is defined as one who models or demonstrates a particular approach or skill, often in a supportive role. SLPs have the opportunity to interact with teachers, parents and caregivers on a regular basis. Demonstrating specific techniques, which may be helpful to the young child with communication problems, can be a powerful learning experience for both parties. In a survey mailed to 1036 kindergarten teachers, 438 respondents indicated positive perceptions regarding the SLP's role in contributing to reading and writing instruction to prevent academic failure by facilitating language acquisition and emergent literacy. (ASHA Leader, 2003) (e.g. modeling of scaffolding strategies for children and adults in the child's natural environment; demonstration of specific oral motor or feeding techniques to parents).

Co-Teacher

A co-teacher works with the caregiver or classroom teacher to increase successful integration and success within the general education curriculum and his/her environment. The young child's communication needs can then be addressed in a way that will impact the development of appropriate speech and language skills (e.g. teaching of phonological awareness skills using curriculum vocabulary to a small group of children of identified and non-identified children in the early childhood classroom) (Montgomery, 1995).

Direct Service Provider

A direct service provider works face-to-face with young children to address their many needs: feeding/swallowing, biological, neurological, acoustic, psychological, developmental, linguistic and cultural-based needs. Activities may include individual or group therapy and explicit teaching of concepts directly related to the acquisition of speech and language production. The SLP analyzes and evaluates information related to the young child's communication and interdependent processes to determine their impact on skill development and mastery across environments. The direct service provider articulates the role of oral language as a precursor to literacy development. In this role, the SLP assists the young child in learning developmentally appropriate pre-literacy/literacy skills, such as the development of sound/word level skills, awareness of the alphabetic principle, development of comprehension skills, knowledge of various types of structures and comprehension and production of coherent spoken texts. It is appropriate for SLPs to have a direct role in literacy intervention in early childhood settings and environments. (e.g. providing therapeutic intervention for a child

with an identified communication disorder in a preschool classroom; using information about the child's literacy skills to impact the intensity and frequency of direct services) (ASHA, 2003).

SLPs and Assistive Technology in Schools (SWAAAC)

Assistive technology teams were initiated by the Colorado Department of Education (CDE) in collaboration with Assistive Technology Partners in 1983 in response to increased need to serve children with severe communication disorders. The original name of the teams, Statewide Augmentative and Alternative Communication (SWAAAC) has been retained, but the acronym now reflects the theme of Supporting Learning through Assistive Technology. Over the years, the services of the SWAAAC teams have expanded to include a wide range of assistive technology devices and services. These devices and services are frequently implemented for children experiencing difficulty reading, writing, speaking, and performing life activities which may affect success in the classroom. Today, over 50 teams throughout the State of Colorado serve 64 school districts. These teams typically include speech-language pathologists, occupational and/or physical therapists, school psychologists, special educators, classroom teachers and others as needed. Family members and children receiving services are valued members of the team.

Services provided by SWAAAC team members include evaluations in conjunction with parents, therapists, and teachers, as well as training and follow-up on an as needed basis. Team members are available to serve as consultants to parents, family members and school personnel. They are also available to answer technology-related questions and to assist children, parents, family, and educators in the selection of appropriate

assistive devices. Once the technology needs have been determined, SWAAAC team members work with the parents, family and school personnel to determine funding needs and to process necessary paperwork.

Referrals to the SWAAAC teams can be initiated by a teacher, support service provider, SWAAAC team member, parent, or administrator. Once a referral has been made, a case manager is assigned to coordinate scheduling, assessment, team meetings, paperwork, and any necessary follow-up. Active participation in the assessment and implementation process by family members is welcome and encouraged. To locate the SWAAAC team serving your area, please contact your local Special Education Director or contact: Assistive Technology Partners (ATP)

Supervision of Speech-Language Pathology Assistants (SLPAs)

In Colorado, the SLPA is authorized by the Colorado Department of Education to work in a school setting under the direct supervision of a CDE licensed SLP. Trained and supervised

SLPAs can be very helpful to speech-language pathologists, especially in supporting and extending the services of the SLP including the provision of intensive services and when caseload numbers and workload are high.

SLPAs cannot maintain their own caseload. It is recommended that they be directly supervised 10–30 percent of the time they are working with children. Initially, SLPAs will require greater amounts of supervision to assure that intervention and other activities are conducted accurately and uniformly. SLPAs can also provide services to non-identified children and may work simultaneously with speech-language pathologists. SLPAs allow for daily intensive therapy, in-class support, discrete trial sessions, and/or progress monitoring for response to intervention (RtI). Carryover and generalization sessions can be set up on a routine basis for children who are reaching time for discharge from services. SLPAs are not qualified to consult independently with parents or teachers about intervention practices or outcomes.



The Colorado Department of Education website has information on SLPAs in Colorado at <http://www.cde.state.co.us/cdesped/SD-SL.asp>. Select the Fast Facts document. The Colorado Consortia for Speech-Language Pathology Assistants provides a system for preparing SLPA and SLP Mentor-Supervisors. Contact Lynea.Pearson@colorado.edu for more information.

WHAT ARE THE WAYS IN WHICH SLPs DELIVER SERVICES IN SCHOOLS?

When considering a service delivery model, it is important to remember that service delivery must remain dynamic and flexible and able to be altered as the needs of the child change. No single service model is typically used exclusively during intervention. It is usually recommended that an array of services be made available in a variety of settings for adequate child support. This allows for the most effective intervention and supports changes that are systematic and encouraged within the natural environments of home, preschool, and community. Multidisciplinary team decisions regarding the nature, type and location of intervention are based on a child's needs and must be consistent with the child's IEP or IFSP. Table 4.1 provides options to facilitate dialogue during the development of the service delivery model that supports timely and effective child outcomes.

WHEN IS IT NECESSARY TO PROVIDE INTERVENTION SERVICES?

The decision to intervene with young children in the context of communication disorders or potential communication disorders is generally based on one of four reasons (Harris, 2002).

Prevention: The onset and/or severity of a disorder can be avoided or altered.

Elimination: Reaching outcomes of intervention will lead to the development of age-appropriate speech and language skills.

Modification/Remediation: The outcome of intervention is to facilitate the child's ability to advance developmentally and become more effective within the ranges of the identified disability.

Compensation and Modification of the Environment: Implies that young children with significant communication disorders may need to rely on assistive technology devices/activities or modifications of the environment to support communication skills.

HOW DO WE DETERMINE EFFECTIVE INTERVENTIONS?

A wide array of interventions is currently available. These interventions are characterized by diversity in style, setting, frequency, and duration. In addition, the unique nature of each caregiving/instructional environment, and the degree to which and with whom the child participates further contributes to selecting the appropriate intervention strategy. Therefore, it is not the purpose of this document to designate specific approaches, methods, or protocols as best practice, but rather to provide current information on best practices to assist SLPs in making appropriate therapeutic decisions based on literature-supported rationales for interventions. Because children are individual and unique in their gifts and needs, it is important for the decision-making team to consider all of the variables surrounding a particular

TABLE 4.1 OPTIONS FOR SERVICE DELIVERY MODELS FOR SPEECH-LANGUAGE PATHOLOGISTS

	ITINERANT/IN HOME PROGRAM (DIRECT SERVICE)	COLLABORATIVE CLASSROOM/ PRESCHOOL PROGRAM (DIRECT SERVICE)	PULLOUT/CENTER BASED PROGRAM (DIRECT PROGRAM)	CONSULTATION PROGRAM (INDIRECT SERVICE)
POPULATION SERVED	All communicative disorders; All ranges (mild to severe); Generally serving 0-3 years of age	All communicative disorders (mild to severe); Primarily serving ages 3 to 6	Moderate to severe and/or multiple communicative disorders; Primary disability is communication regardless of etiology; Primarily serving ages 0 to 6	All communicative disorders; All ranges (mild to severe); Primarily serving ages 0 to 6
SERVICES PROVIDED	Program development, management, coordination and evaluation services; Direct services and consultation with other service providers and caregivers to ensure follow up on additional programming.	Program development, management, coordination and evaluation services; Direct services and consultation with other service providers; Primary responsibility for pre-academic and other skill areas rests with preschool teacher and other team members.	Program development, management coordination and evaluation services; Intensive direct services; Consultation with other service providers; Primary responsibility for pre-academic and other skill areas rests with SLP case manager supported by other team members.	Program development, management, coordination and evaluation services; Develops program to be carried out by others. (indirect services)
RECOMMENDED GROUP SIZE	Individual provided in (naturalistic) home or itinerant setting.	Individual to small group provided in preschool/ classroom setting (generally no more than 3-4 identified children to 10 typical peers).	Individual to small group provided in a center based site; Group size dependent on the severity and complexity of needs.	Individual/group
CONSIDERATIONS FOR WORK LOAD CASELOAD SIZE FOR SLPs <small>(SEE APPENDIX P FOR WORKLOAD ACTIVITIES CLUSTER FOR EARLY CHILDHOOD SLPs)</small>	Infants and toddlers require an increased amount of time to effect changes in a rapidly changing developmental system; Assisting/training parents/ caregivers in needed programming for daily intervention activities requires additional time; Consulting with coordinating services is also a critical component for achieving effective child outcomes.	Moderate to severe needs require a multi-disciplinary or trans-disciplinary program, including ongoing collaborative opportunities and progress monitoring; Moderate to severe needs require more intensive, explicit, dynamic programming embedded in the regular instructional routine.	Moderate to severe needs with multiple communication disabilities requires a focused program addressing the variety of communication needs; Additional planning and clerical support may be required.	Amount of time needed to organize and create the program needed; Additional time to train the personnel that will implement the program.

intervention when matching a child's needs to service delivery and programming. No one approach, technique, method, or service delivery is best for all young children.

Over the past decade there has been an emphasis on outcomes in speech and language research. This growing emphasis has been fueled by NCLB and health care agencies. Now SLPs are asked to demonstrate effectiveness and efficacy of their interventions and programming. Essentially, SLPs must demonstrate that the therapy services they provide are leading to the achievement of established and desired outcomes. In order to meet these goals it is important to appropriately match the child's needs with the appropriate intervention. To make successful matches, the interventionist must have a broad knowledge-base regarding research and evidence based practice. McLean and Cripe (1996) reviewed 56 studies on early speech and language intervention published between 1986 and 1995 leading to two fundamental tenets:

- Early intervention for all types of communication disorders can be more effective and efficient than interventions provided at later stages.
- The interventionist must rely on informed clinical judgment based on research to determine program objectives, intervention settings, and approaches appropriate to meet a child's needs.

ASHA states that if the discipline of communication sciences and disorders is to move forward into evidence-based practice, then clinicians and researchers must become familiar with clinical trials and efficacy research (Castrogiovanni, 2004). Castrogiovanni defines these key words as:

Effectiveness: A measure of the extent to which a specific intervention does what it is intended to do for a specific population.

Efficacy: The extent to which a specific intervention procedure produces a beneficial result under ideal circumstances. Efficacy is not just a matter of asking whether or not the intervention will improve language skills; it is especially important to ask whether it will also improve the quality of life (Britton & Fujki, 1995).

Protocol: The plan or set of steps to be followed in a study or intervention. The goal of efficacy research for communication disorders is to ask the questions:

Does treatment work for this disorder? How does the child respond (effectiveness) to prompts, cues, intervention strategies?

Does this treatment work better than another for this disorder/condition? Is there a positive result (efficacy) in a short period of time?

What changes have occurred in the child's language by using this treatment? Is the improvement (evidence of effectiveness) contributing to overall well-being?

Is the change the result of the treatment? Is there data to support that targeted skills are improving as compared to untargeted or unrelated skills (evidence of efficacy)?

In order to identify effective interventions, SLPs can analyze the answers to these questions, continually document the amount of progress and consistently monitor the developing child. They must also consider other variables that may or

may not contribute to change as they examine the rationale for the choice of intervention and each outcome. Some of the intervention variables that may impact the results or outcomes include:

- Direct or indirect service delivery
- Individual or group service delivery
- Home, clinic/center or classroom settings
- SLP, SLPA or parent/caregiver service providers
- Structured, directive techniques, or a naturalistic approach

It is important to maintain flexibility of thinking when monitoring progress. One must consider making changes in the amount, frequency, and intensity of interventions as the child's age and stage of development evolve. It is these

considerations that can muddy the decision-making water and is the reason that the team must engage in a thoughtful assessment with development of appropriate rationales for the intervention choices and decisions made.

HOW IS THE RESPONSE TO INTERVENTION MODEL AFFECTING THE ROLES OF THE SLP?

As noted in Chapter 2 (Promoting Communication Development), Colorado has a statewide general education intervention model for child success. The Response to Intervention model (RtI) (Figure 2.1) is based on a system of three tiers that increase in frequency and intensity depending on individual needs and progress made. The RtI model of intervention for speech-language pathologists is illustrated below in Figure 4.1.

FIGURE 4.1 COLORADO MULTI-TIERED MODEL OF INSTRUCTION & INTERVENTION

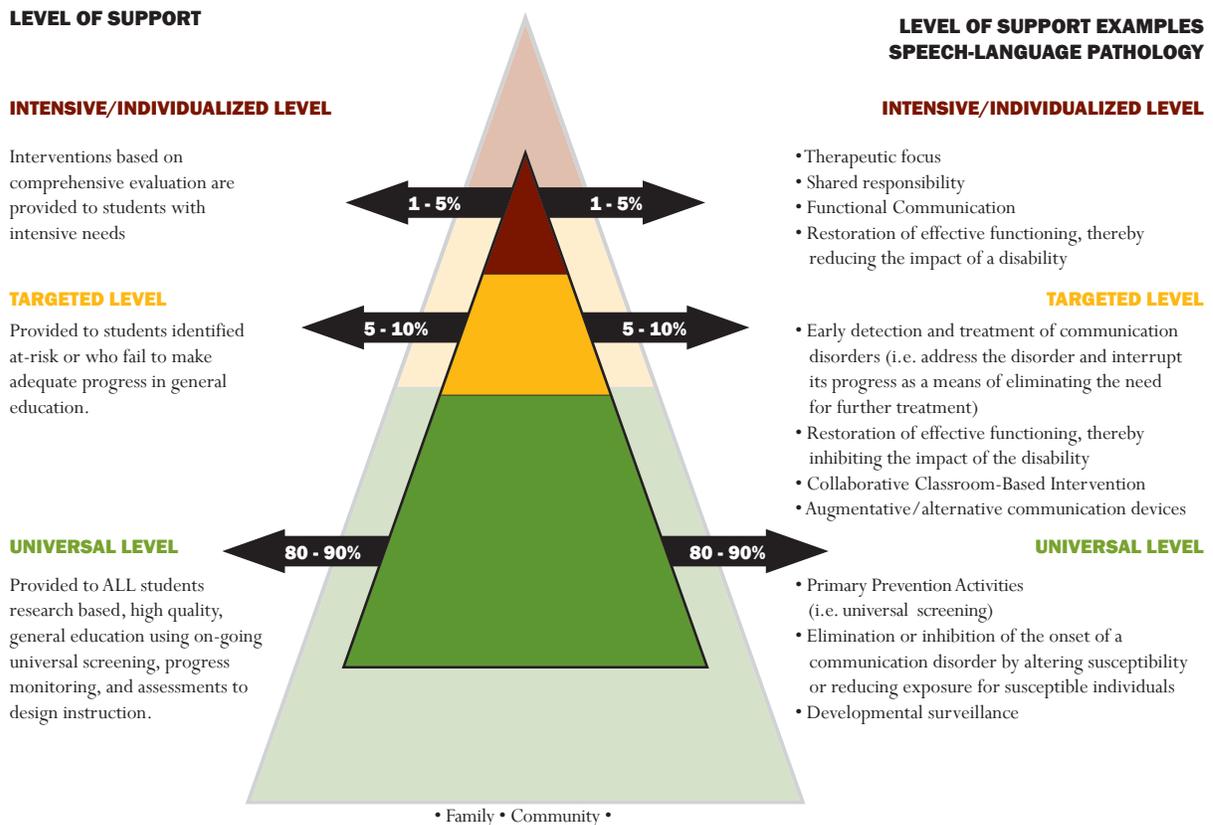


TABLE 4.2 THEORETICAL FOUNDATIONS AND IMPLICATIONS FOR SERVICE DELIVERY ACROSS MODELS

	TRADITIONAL MEDICAL MODEL	CURRICULUM- RELEVANT MODEL	RESPONSIVENESS-TO- INTERVENTION MODEL
PRIMARY FOCUS	Diagnosing and treating speech–language impairments	Identifying children with functional needs that stem from speech-language disorders; Helping these children develop language skills for improved function in curricular contexts	Preventing reading failure and the need for special education
IMPLICATIONS FOR SERVICE DELIVERY	If context plays a role in the problem, the ideal intervention setting is 1:1 from in therapy room	If context plays an important role in assessment and intervention, services should draw on the context of the quality of service curriculum, whether provided in the classroom or therapy room; group activities enhance opportunities for peer interactions	Before any special education services are recommended, it should be determined that the child has difficulty benefiting from high quality services within the general education classroom (Tier I), within intensified small group instruction (Tier II) or further intensive instruction (Tier III)

(Adapted from Staskowski & Rivera, 2005, p. 137).

The RtI model as a service delivery system available to all students is evolving due to changes in the Individual with Disabilities Educational Improvement Act (IDEA, 2004). Research relevant to special education practices has also revealed that traditional identification practices, particularly for children with learning disabilities, have been fraught with misidentification issues. Although minimal information exists regarding this model in the birth-kindergarten population, it is important to consider the roles of SLPs in this context. Specifically, the role of SLPs in providing early intervening services, or services to non-identified special education children, needs clarification and guidance. Three-tier models are common; however, they differ regarding whether or not Tier III service delivery activities are considered special education (Staskowski & Rivera, 2005).

WHAT ARE CLASSROOM-BASED COLLABORATIVE INTERVENTIONS WITHIN AN RTI MODEL?

The classroom based collaborative intervention (CCI) is an effective way to implement RtI. CCI is an instructional design model that aligns teaching strategies with a collaborative model of service delivery. This instructional model is inclusive, yet it considers the importance of each area of diversity. In this model the SLP or Early Childhood Interventionist (ECI) works collaboratively with classroom teachers to instruct all children in an inclusive setting. To accomplish this needs-based instruction, a model of differentiated instruction is employed. The expectations, instruction and evaluations are mutually determined by the participants. The purpose of CCI is to create a language-rich environment in which all children are exposed deliberately and recurrently to high quality verbal input from peers and adults.

TABLE 4.3 COMPARISON OF ROLES FOR SLPS ACROSS MODELS

	TRADITIONAL MEDICAL MODEL	CURRICULUM- RELEVANT MODEL	RESPONSIVENESS-TO- INTERVENTION MODEL
TIER I ALL CHILDREN	No role	Participate in school improvement and curriculum teams; while working in classrooms that include “caseload” children, collaborate with teachers to provide group instruction for all, targeting, for example, phonemic awareness, vocabulary, participation in class discussions, strategies for following directions, social skills for interacting with peers, oral comprehension, reading comprehension, writing processes.	Work at the school building level to plan professional development and group instruction for all, focused on language and literacy, whether or not the classroom includes children “on-the-caseload” , targeting, for e.g. phonemic awareness, word-decoding skills, self-talk to assist self-regulation, social skills for interacting strategies for following directions, reading comprehension, note taking strategies
TIER II AT-RISK CHILDREN	Provide in-services to help teachers recognize the symptoms of speech-language impairments and know how to refer them for assessment. Screen for the presence of speech-language impairments in selected grade or classes	Provide information about relationships of language development and learning or social interaction difficulties. Consult with child study teams and teachers when they are concerns about particular children about when to refer. Observe children in the classroom. Problem solve ways to assist children in the classroom prior to initiating formal diagnostic activities	Coach/mentor other support team members to monitor progress of children “at-risk”. Help others design and implement specialized instruction for those not responding to general classroom instruction; for e.g. might involve small classroom instruction for children
TIER III CHILDREN WITH DISABILITIES	Use diagnostic procedures (primarily formal tests) to diagnose impairment and identify children eligible for special education service. Use test results to develop IEP goals and plan intervention. Provide treatment and monitor progress toward goals. Reassess periodically to decide whether child remains eligible for SLP services	Use curriculum relevant diagnostic procedures (e.g., interviews, curriculum based language assessment, dynamic assessment and relevant standardized tests) to identify children who are eligible for and need speech language intervention services. Use assessment results to plan collaboratively with teacher, child and parents what curricular activities and related language literacy abilities to target in intervention. Provide services in the classroom or therapy room that are relevant to goals to progress in the general education curriculum. Monitor progress using curriculum-relevant assessment procedures and decide whether the child continues to need special services.	Before any special education services are recommended, it should be determined that the child benefiting from high-quality services within the general education classroom(Tier I) within gradually more intensive small group instruction (Tier II) or from further intensive individualized instruction (Tier III)

The CCI model is ideal to address the needs of children in the early childhood setting and at the universal level of the three-tiered model. Linguistic activities and interactions are purposefully embedded in the daily instruction of the early childhood classroom.

Collaboratively taught classrooms have four general characteristics. The first two capture changing relationships between teachers and children. The first is shared knowledge among the children and the teacher/SLP. The second is the shared authority among the children and the teacher/SLP. The next two emphasize the learning experience. As knowledge and authority are shared, the role of the teacher and the SLP emphasize the third characteristic, mediated learning. Successful mediation helps learners to connect new information to their experiences and to learning in a variety of linguistic/literacy environments.

The fourth characteristic involves the heterogeneous groupings of children. This type of grouping values diverse perspectives and contributions. Everyone learns from everyone. This type of classroom service delivery is ideal for the early childhood arena and incorporates all of the principals expressed in a RtI three-tiered model. CCI involves creating rich environments and activities linking new information to prior knowledge and providing opportunities for collaborative work and problem-solving, while offering children authentic learning tasks. The expectations, instruction, and evaluations are mutually determined by the participants. The purpose of CCI is to create a language rich environment in which all children are exposed deliberately and recurrently to high quality verbal input from peers and adults.

Additional information, forms and checklists for assisting teachers and SLPs to teach and monitor progress in emergent literacy skills are in Appendix N.

WHAT ARE THE KEY COMPONENTS OF MEDIATED LEARNING?

Mediated learning is defined by Vygotsky as facilitating, modeling, and coaching. Each of these are important components to include in language intervention.

Facilitator/Facilitating: The teacher, ECI, SLP or SLPA, Child, and Parent, create tasks and experiences that encourage diversity but aim at high standards of performance for all. These tasks involve children in high level thought processes such as decision-making and problem-solving making connections to their experiences and language. These tasks enable children to expand their world and gain confidence.

Model/Modeling: In the collaborative classroom, modeling serves to share with all not only what one is thinking but also the processes involved in communicating and collaborating. Modeling may involve thinking aloud (sharing thoughts and/or observations) or demonstrating (showing how to do something in a step by step fashion).

Coach/Coaching: Coaching involves providing prompts or cues, providing specific feedback, redirecting efforts, or helping to use a specific strategy effectively.

WHAT EVIDENCE DO WE HAVE TO SHOW EFFECTIVENESS OF INTERVENTIONS?

Faced with new mandates regarding accountability and documentation, the American Speech and Language Association (ASHA) responded with the creation of a program to assist SLPs in the demonstration of the effectiveness of their service delivery. The National Outcome measurement System (NOMS) collected data regarding the effectiveness of intervention and children's abilities to perform in a variety of settings. The Functional Communication Measures (FCMs) were created by ASHA to provide SLPs with a method by which to measure a child's communication progress in functional and educationally relevant ways. FCMs include seven-point rating scales, ranging from least functional (Level 1) to most functional (Level 7), and describe the different aspects of a child's functional communication or swallowing abilities.

Positive functional outcomes are the desired products or results of effective intervention. These performance outcomes demonstrate clinically significant changes that can be documented and measured. Functional communication outcomes are born from an accurate evaluation and a clear vision of how the child's speech and language skills are linked to their development. In an era of accountability, it is important that we are able to measure changes and to provide evidence that these changes are clinically significant and are the result of good practice and effective intervention. Bain and Dollanger (1991) suggest that in order for changes to be clinically significant, they should be the result of the intervention that shows systematic improvement that makes a

difference in the functionality of the client. The following six FCMs were developed to measure communication skills of the young pre-kindergarten child:

- Articulation/Intelligibility
- Cognitive Orientation
- Pragmatics
- Spoken Language Comprehension
- Spoken Language Production
- Swallowing

These FCMs were designed to describe change in functional abilities at the time of admission through discharge from the speech-language treatment program, or over the course of an academic year. They are not dependent on administration of any particular formal or informal assessments, but are informal clinical observations of the child's communication abilities. The FCMs are not intended to reflect the entire evaluation or to describe all aspects of the child's communication abilities. FCMs have not been developed for all goals that might be addressed as a part of a child's treatment plan/IEP. For example, there is no FCM for oral motor functioning. While this may be an important aspect of a particular treatment program, improved oral motor functioning in isolation is not by itself a functional outcome. Rather, it is required to achieve communication and related behaviors such as swallowing and speech intelligibility.

*Notice also that the intensity and frequency of cueing may be modified from one FCM level to another as the complexity of the information/task or situation increases. Please refer to the description of functional levels below to determine the amount and intensity of

cueing used in the various levels of Functional Communication Measures (FCM) The following descriptions can be used as general guidelines to determine placement at various levels.

Level 1: The child’s communication abilities are nonfunctional, and the child is generally unable to respond to a task regardless of the amount of structure or cueing that is provided. At this level, because of the child’s condition, it is not possible to elicit any response for a targeted behavior; the determination of appropriate level would be deferred until responses are observed allowing the determination.

Level 2, 3 and 4: The burden is placed on the communication partner to make the child functional. With improvement, the child assumes greater responsibility for his/her functional communication; however, there may be an increased need for external structure or cueing (maximal to moderate) as the complexity increases.

Level 5: It is typically the transition to functionality. There is a shift at this level as the child begins to assume more responsibility for communication and may begin to initiate compensatory strategies. Although the child may continue to require minimal cueing, there is a decreasing dependency on the clinician and others to make the child a functional communicator.

Level 6: The child has become increasingly independent, but continues to rely on the communication partner, more than what would be expected for his/her chronological age, to provide external minimal cueing/structure and direction.

Level 7: The child is fully independent in all aspects of group activities. Although the child may self-initiate and use compensatory strategies, he/she rarely relies on any external cues from the communication partner. Scoring a Level 7 assumes independent functioning. In addition, the score indicates that the child’s skills are within normal limits in a particular clinical area.

Each level of the FCM contains references for the intensity and frequency of cueing and use of compensatory strategies that are required to assist the child in becoming functional and independent in various communication situations and activities.

FREQUENCY AND INTENSITY OF CUEING

■ Consistent	80–100% of the time
■ Usually	50–79% of the time
■ Occasionally	20–49% of the time
■ Rarely	< 20% of the time

INTENSITY OF CUEING

Maximal Cueing: Multiple cues that are obvious to non-clinicians; any combination of auditory, visual, pictorial or tactile cues

Moderate Cueing: Combination of cueing types, some of which may be intrusive

Minimal Cueing: Subtle and only one type of cueing

HOW SHOULD TRANSITIONS IN SERVICE OCCUR?

Transitions entail a change from one setting to another. It may be a change from one least restrictive environment to another, or from one

special education setting to another, or from one level to another, such as infant toddler (Part C) to preschool or kindergarten (Part B). For a transition to be successful it is important to communicate with parents, teachers and other professionals to integrate speech and language goals and objectives into the new environment, setting, and /or community. Both sending and receiving SLPs should be involved in actively supporting the transition. Planning for transitions should begin as soon as children begin receiving special education services.

For children already receiving services or eligible for services in Part C, planning services should begin six months, but preferably 9 to 12 months prior to the child's third birthday. If a child is already two and or over the age of two, newly identified, or determined eligible for services, transition planning should begin immediately or as soon as possible. This process ought to include parents, and all stakeholders from the child's current, past and future setting. The child transitioning from Part C to Part B must meet the criteria of a child with a disability to be eligible for preschool/Part B services(Refer to communication profile in eligibility section). In some cases, the parents in conjunction with the LEA (Local Education Agency/school district) may elect to continue the IFSP (Individual Family Service Plan) in place of an IEP. If a child does not meet criteria for continued service the transition team must discuss options of other appropriate services with the family.

WHEN IS IT APPROPRIATE TO EXIT CHILDREN IN THE BIRTH TO KINDERGARTEN RANGE FROM SPEECH-LANGUAGE SERVICES?

The discussion of exiting from services actually begins during the initial meeting with family and caregivers when first considering eligibility.

Guidelines for outcomes including exit and prognostic indicators should be discussed when determining programming/intervention. As suggested by Montgomery and Moore-Brown (2002), the exit criteria can serve as a guide during the intervention process.

Although prognostic indicators may change over time, consideration should be given during both eligibility and exit procedures to a variety of factors (ASHA, 2002b, pp.284).

- Potential to benefit from intervention
- Medical factors/risk factors
- Psychosocial/environmental factors
- Attendance
- Family/caregiver involvement
- Interventionist involvement and opportunity for intervention
- Other concomitant conditions, such as impact in other learning areas
- Child engagement and motivation
- Previous documented progress
- Relevant information from documentation and evidence based practice.

Exit decisions occur when the child no longer needs special education or a related service in order to benefit from educational opportunities. ASHA (1997) comments that treatment should not continue when there is no longer any expectation for further benefit. Per ASHA's Code of Ethics, SLPs should make reasonable statements of progress based on individual factors and should avoid guarantees regarding the results of any treatment or procedure (ASHA, 1994).

WHAT PROCEDURE IS USED TO EXIT A CHILD FROM SPEECH-LANGUAGE SERVICES?

In young children it is often difficult to discern if the causes for the original concern requiring placement and services have been ameliorated, are still emerging, or are waiting to manifest in yet another domain. With this in mind, the law (IDEA, 2004) requires a reassessment prior to exit. The reassessment procedure should be rigorous enough to make a good decision regarding exit from program. If the treatment has been completely focused on the identified concern rather than the effect that the concern has on the child, then the documentation (standardized tests/specific performance data entries) will not provide the information needed to make a good exit decision.

Exit criteria should be based on functional outcomes that target the dynamic, interactive quality of the infant, toddler or young child's communication skills.

Following the reassessment, the IEP or IFSP team reconvenes to review assessments and/or documentation and consider if exit is appropriate and warranted. Exit criteria as stated directly from IDEA (2004) includes three basic statements regarding the need for specialized services to determine that:

- The presence of adverse effects on educational performance no longer exists.
- The disability no longer has an adverse effect on the child's educational performance.
- The disability no longer exists.

The SLP and multidisciplinary team must consider federal mandates, state regulations/guidelines, LEA and BOCES criteria when considering exit. The decision to exit a child from special education services should never be unilateral or based on a single assessment.

DEVELOPMENTAL NORMS FOR SPEECH SOUND DEVELOPMENT

The purpose of these appendices is to provide the early intervention SLP with general information regarding the development in the infant/ toddler and young child speech sounds. All sounds are the

result of the ever growing and changing vocal tract as well as the evolving neurological system during the first six years of life. The table on the following page is compiled and adapted from a number of sources and is not designed to provide a basis for decisions regarding eligibility.

DEVELOPMENTAL STAGES FOR SPEECH SOUND DEVELOPMENT

APPENDIX A | DEVELOPMENTAL NORMS FOR SPEECH SOUND DEVELOPMENT

	VOWELS (SHRIBERG, 1993)	NORMS 1990(90% ACCURATE) (SMIT,1990)	TYPES OF SOUND ERRORS (GRUNWELL,1997)	AGE FOR DISAPPEARANCE OF PHONOLOGICAL PROCESSES (SHRIBERG,1993)	REQUIRED WORD SHAPES (SHRIBERG,1993)	INTELLIGIBILITY	PERCENTAGE OF CONSONANTS CORRECT IN MONO-SYLLABIC WORDS (WARING,FISHER, ATKINS, 2001)
18 TO 24 MO	/i/ /ɪ/ /e/ /o/ /ɔ/ /a/ /æ/ /ɛ,/ʊ/	/p/,/b/,/m/ /n/,/h/,/w/	Omissions, substitutions & distortions	Syllable deletion	CV,CV	Intelligible for single word productions 25-50%	69.2% with a range of 53%- 91%
3 YEARS	production of single vowels is generally mastered at 3 years 92.4%	/p/, /b/, /m/, /n/, /h/, /w/ /t/, /d/, /k/	Omissions: minimal Substitutions: may be present Distortions: may be present Atypical errors: should be absent	Final consonant deletion Consonant harmony Reduplication Context-sensitive voicing Stopping /f,/s/	CV,VC,CVC,Cn_ or__ (initial & final clusters, ie., blow,bulb) 2- syllables	If intelligibility rates in conversation are at a level of at least 71% accuracy, it is rated to be within normal limits.	86.2% with a range of 73%-99%
3-5 YEARS	/ɪ/,i/ u/ ʌ/ e/ /ɛ/ o/ ɜ/ /ʊ/ a/ /æ/ 93.9% produced accurate	Add /j/, /f/, /g/ Emerging consonant Clusters sn, sm, sp, st, bl, br, cl, cr, pl, pr	Omissions: should be absent; exception: /t /, /d/ final position may persist Substitutions: may be present Distortions: may be present	Stopping fronting Final Consonant deletion	CV, VC, CVC,Cn_, or Cn_Cn 2 Syllable word	Intelligible to a familiar listener. 71%-80% intelligible	86.4%
4 YEARS	All should be present	Add /,s/ /dʒ/	Omissions: absent Substitutions: may be present Distortions: may be present	Stopping for /f,/ /tʃ/, /j/ Cluster reduction Weak syllable deletion	Add Cn__Cn, 3-syllable, ie., initial/final clusters in 3- syllable words	93% intelligible	88.5%

DEVELOPMENTAL STAGES FOR SPEECH SOUND DEVELOPMENT (CONTINUED)

	VOWELS (SHRIBERG, 1993)	NORMS 1990(90% ACCURATE) (SMIT,1990)	TYPES OF SOUND ERRORS (GRUNWELL,1997)	AGE FOR DISAPPEARANCE OF PHONOLOGICAL PROCESSES (SHRIBERG,1993)	REQUIRED WORD SHAPES (SHRIBERG,1993)	INTELLIGIBILITY	PERCENTAGE OF CONSONANTS CORRECT IN MONO-SYLLABIC WORDS (WARING,FISHER, ATKINS, 2001)
4.5 YEARS	All should be present	v, /tʃ/, /ʃ/ /z/, /ŋ/	Omissions: absent Substitutions: may be present Distortions: may be present	Deaffrication Depalatalization	Continues as above	93.9% intelligible	88.5%
5 YEARS	All should be present	Add /j/, /l/ /θ/, /r/ ɹ	Omissions: absent Substitutions: may be present Distortions: may be present	S or ts for /tʃ/ / dʒ/ and gliding	Add 3+ syllable	intelligible	89.54%
5.5 YEARS	All should be present	Add /ð/,v/	Omissions: absent Substitutions: may be present Distortions: may be present	Declining Epenthesis metathesis		intelligible	89.5%
6 YEARS	All should be present	All should be present	Omissions: absent Substitutions: absent for all sound but /θ/, /ð/ and /v/ in specific words. Distortions: lateralized sibilant fricative and affricate productions typically will not self-correct without intervention. Dentalized productions may continue to self-correct	Gliding of liquids	All should be present	100% Intelligible to an unfamiliar listener	98.4%

INTELLIGIBILITY CONSIDERATIONS

In determining intelligibility a number of factors can negatively influence intelligibility. Some of the primary but not exclusive factors that impact include: the type of sound error and the frequency with which that sound may appear in the spoken English language. For example, the consonant /t/ appears frequently and if that sound is significantly and consistently in error (omitted or substituted) then intelligibility may be more compromised. With this in mind it may be prudent to consider the profile of errors when selecting a target for remediation. Other factors include: Number of errors, type of error (omission has greater impact than substitution) inconsistency of errors, and rate of speech.

PERCENTAGE OF OCCURRENCE OF ENGLISH CONSONANTS

Consonant	Rank	Percentage
t	1	13.7
n	2	11.7
s	3	7.1
k	4	6.0
d	5	5.8
m	6	5.6
l	7	5.6
r	8	5.2
w	9	4.8
h	10	4.2
ð	11	4.1
g	12	4.1
p	13	3.9
b	14	3.5
z	15	3.0
ŋ	16	2.5
f	17	2.4
j	18	2.2
ʃ	19	1.5
v	20	1.2
θ	21	0.9
tʃ	22	0.7
dʒ	23	0.6
ʒ	24	0.0

Shriberg & Kwiatkowski (1995). In Bleile, K.
Manual of articulation and phonological
disorders. SanDiego: Singular Publishing

Again if intelligibility is a goal then, considering the error pattern that a given child produces and analyzing the effect that these errors play in intelligibility of the child's speech productions is a prudent action to take.

EFFECT OF ERROR PATTERNS ON INTELLIGIBILITY

Beginning of Word	End of Word
Most to Least effect	Most to Least effect
____ Fronting	____ Final consonant deletion
____ Gliding	____ Fronting
____ Initial voicing	____ Word final devoicing
____ Stopping	
____ Cluster reduction	

Leinonen-Davies (1998). In Bleile, K (1995). Manual of articulation and phonological disorders. SanDiego: Singular Publishing

KEY FACTORS IN TREATMENT OF ARTICULATION/PHONOLOGICAL DISORDERS IN PRESCHOOLERS

Amount of Treatment: This data considered those children that received only 0.5 to 2 hours of service (minimal) versus those that received 60 or more hours of service. The findings revealed that nearly all (91%) of the children who received over 60 hours of intervention showed demonstrable change in their articulation skills and the majority (68%) attained 2 or more levels of progress on the Articulation/Intelligibility FCM. This information indicates that an increased number of children made gains; furthermore, these children made greater gains in targeted areas.

Service delivery model: This compares the service delivery models of individual versus group treatment settings. These results revealed that children who received individual treatment for articulation disorders made greater gains in a shorter period of time than their counterparts that received group treatment. Whereas this is true only for children with articulation/phonology issues, it is not true of their counterparts with other types of communication disorders (expressive, receptive, pragmatic) or where articulation appeared in conjunction with an additional communication disorders. For these children, the group service model was effective when considering both the gains and length of time taken to achieve the gains.

Completion of Structured home program:

The data here revealed that those children who completed a structured home program demonstrated a greater amount of functional change and progressed through more levels of FCMs. This would indicate that SLPs wishing to maximize outcomes should actively explore ways to involve caregivers in treatment. *Additionally, this information could be used to educate parents about the crucial role they play in intervention.*

Adapted from: Tracy (2002). Preschoolers With Articulation Disorders What Affects Progress? ASHA, Rockville, MD.

SPEECH MOTOR DISORDERS IN THE YOUNG CHILD

There is concern and confusion around the diagnosis and intervention practices of children with speech motor difficulties. Even the understanding/use of the label is inconsistent from institution to institution and professional to professional. For the purposes here we will use the terms dysarthria and childhood apraxia of Speech (CAS) to describe speech motor disorders.

Dysarthria: In dysarthria, the muscles for articulation themselves are affected with respect to the strength and precision required for intelligible speech. This generally appears in children with neurological issues such as cerebral palsy. In dysarthria, the symptoms are consistent in a variety of oral contexts (eating, speaking). The mispronunciations are predictable. Complex sounds and sequences are difficult and are likely to be simplified or approximated. A child with dysarthria will exhibit reduced accuracy in all utterances, resulting in consonant cluster reduction, syllable omission, consonant distortion in all contexts, hypernasality and drooling may also be present.

CAS: Most of the definitions of CAS include a comment regarding the relationship of symptoms to *Motor Planning*. This is described by Jean Ayers as a lack of *praxis* which is “the ability to formulate or plan different actions that allow the individual to affect the relationship between self and environment which occurs before actual motor execution.” (Ayers, A. J. (1985).

In apraxia the context, and volitional control in the absence of muscle weakness, make a significant difference to the sound production outcomes. A child that may be able to lick an ice cream cone may not be able to pretend to do so or the lift the tongue following a therapist’s placement instructions. Although the movements are similar the context defines the ability to perform. In one case (ice cream licking) this sequence of movement is automatic while another context (pretending or following directions) are volitional, deliberate, and depend on cognitive planning to implement the motor sequence. In another illustration a child may be able to say mom and to even expand it to mama but not be able to maintain accuracy for mommy. It is estimated that CAS occurs in about one to ten children per 1,000 (Shriberg, L.D., Aram, D.M., & Kwiatkowski, 1997). Speech language pathologists responding to the ASHA Omnibus Survey in 2001 reported approximately 17% of the typical school setting caseload/workload was made up of students with phonology/ articulation needs that had speech motor components. It should be noted that this diagnosis is rare and if one adheres to the strict criteria required for research protocol that this statistical report would indicate an over identification of CAS. For those SLPs working in the early childhood arena it is problematic to distinguish between phonological/ articulation

issues possibly resulting from language disorder/ delay and those phonological/articulation issues with a contribution from CAS. Experts in the field agree that the young child or infant/ toddler without the underlying foundational motor and cognitive skills to participate in the assessment cannot be appropriately identified as a CAS child in a limited assessment time. “ Unless a child

can attempt to imitate utterances that vary in length and complexity it is very difficult to make a definitive diagnosis” Edythe Strand(Apraxia –Kids.org, suspected apraxia in young children retrieved 3/16/05). A number of professionals working in the field have offered observations that direct attention to the characteristics of CAS. Most agree that there is a motor component to this disorder.

POSSIBLE CHARACTERISTICS OF CAS

EDYTHE STRAND (MOTOR PERSPECTIVE)	SHELLEY VELLEMAN (LINGUISTIC PERSPECTIVE)
Limited consonant and vowel repertoire	Restrictions/gaps in sound repertoire(may have acquired later developing sounds, but be missing earlier sounds)
Presence of vowel distortions	Limited variation of vowels and use of a centralized vowel in a multipurpose way.
Use of simple shapes	Limited use of syllables, difficulty combining the sounds they do have
Difficulty initialing and maintaining articulatory configurations	Predictable utterances are easier than novel ones and words seem to disappear more than would be expected in a typical child
Difficulty completing a movement gesture for a phoneme easily produced in a simple context but not in a longer one. Source: compiled and adapted from Strand 2003	Vocalizations may have a speech like melody but syllables and discernible words may not be present. Source: compiled and adapted from Velleman,S.L.2003
Other characteristics listed in the literature	Non Speech characteristics that may indicate CAS in the young Child
<ol style="list-style-type: none"> 1.Groping behavior when asked to imitate or directed to placement. 2.Higher incidence of initial sound omissions. 3.Slower rate of speech (diadochokinesis) 4.Difficulty with sequences of sound 5. Inconsistency of productions. 6.Prosody disturbances 7.Voicing errors 8.Struggling behaviors during speech events 	<ol style="list-style-type: none"> 1.Limited reduplicated babbling in the prelinguistic stages. 2.Difficulty feeding lack of rhythmic suck-swallow-breathe. Frequent choking gagging and difficulty handling mixed textures 3.Homemade gestures or signs to communicate (may not stay consistent) 4.Late development of motor skills overall 5.Oral motor incoordination (excessive drooling) 6.Limited consonants in pre-linguistic or phonetic inventory

The development of the brain and physical structural growth provides the venue for the acquisition of speech and speech motor patterns in infants and young children. For the infant, toddler and very young child it is important to consider the prelinguistic development, as these may constitute early indicators of later speech motor concerns. Stoel-Gammon(1992). The following scale is a compilation of a variety of sources and is designed to provide SLPs with general information in this area Caution should be exercised, as this is not a diagnostic tool.

Thus, the quality and quantity of an infant’s prelinguistic vocalizations appear to serve as important precursors to meaningful speech. Children with CAS whose prelinguistic

vocalizations may be lacking in quality a, quantity, or both are therefore starting the speech game with a strike against them.(See Speech Sound Stages and Development in Appendix for further information).

INTERVENTIONS

There is very little literature and or research on the subject of diagnosis and intervention for the very young child with suspected CAS. There is unquestionably a reason to address the needs of young children that present with severe phonological concerns accompanied by motor issues. Below are listed some suggestions of interventions strategies for the young child.

ORAL AND SENSORIMOTOR DEVELOPMENT SCALE

	ORAL AND SENSORIMOTOR DEVELOPMENTS	CHARACTERISTICS
BIRTH TO 3 MONTHS	Small oral space. Larger tongue in comparison to oral cavity. Tongue and jaw move forward to assist in swallowing. Infant’s movements are random. Sucking is rhythmic.	Vocalizations are reflexive with the presence of phonation, quasi vowels, and glottals.
3 TO 6 MONTHS	Kicking becomes rhythmic with both legs moving in unison. Hand banging appears with both arms moving in unison. Rhythmic jaw wagging at 4 months the infant sits with support and mouths objects. At 6 months the infant has teeth and demonstrates better jaw control for chewing.	Marginal babbling at 3 months and continued expansion of sound production, full vowels, raspberries. Canonical babbling emerging at 6 months canonical syllables and reduplicated sequences (ex. bababa). These are primarily monosyllabic utterances.
6 TO 10 MONTHS	Bilateral retraction of the lips in a volitional smile. Emergence of lip rounding.	20% or more of the infant’s vocalizations are babbles. This babbling consists of a true consonant and a vowel in the same syllable. Both reduplicated (bababa) and non reduplicated babbling (babidi) are present. This babbling can also be paired with intonational contours
10 TO 12 MONTHS	The oral space enlarges and the tongue is less dependent on the jaw for movement. The oral structures facilitate speech production. Some neurological maturation provides memory and meaning to support the sounds produced.Source: compiled and adapted from Blelie, K 2004	The emergence of the first true word (9 to 12 months). There is an expansion of syllable shapes and approximations of single words (examples of babbling stages @ www.vocaldevelopment.com)

1. Make communication the primary focus- Clinicians should work with caregivers and parents to facilitate the young child's communication efforts and intents.
2. Foster parent involvement every step of the way.-For the young child and or toddler it is important that the people available during the "teachable moments" be informed regarding goals and intervention strategies
3. Provide a predictable communicatively rewarding environment that promote and motivates a child to verbally interact.
4. Start with sound effects (animal sounds/ machines), chorale speaking, verbal routines, songs, and rhymes using engaging materials such as puppets.
5. Speech and sound production in conjunction with movement (bouncing on a ball saying ball,ball, ball) pairing words with actions (hi-wave, bye-wave, slide –whee)
6. Easy syllable shapes that are high frequency, have strong meaning connections, and have distinctive pitch patterns(uh-oh yeah yea, wow, huh uh, yum yum)
7. Use sounds that are already in the child's inventory (example me, more, mama if the /m/ is present)
8. When a child is using verbalizations regularly focus on syllable structures and diversity within the already acquired repertoire This strategy is described by Shelly Velleman as, "old forms- new functions and old functions- new forms.)
9. Encourage the use of naturalistic gestures signing and or pictures as needed to enhance communicative effectiveness

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FLUENCY

Of primary importance to the identification of stuttering in young children is the separation of those children that continue to stutter versus those that may experience a **spontaneous remission** and those children that display normal developmental dysfluencies.

Yairi and his colleagues in a longitudinal study (Yairi et al, 1996) compared children who experienced spontaneous remission with those who continued to stutter. The results indicated that children who stopped stuttering:

- Were younger
- Usually began to stutter before three years of age
- Were girls
- Had many more family members who stopped, rather than continued to stutter
- Decrease in frequency and type of stuttering like disfluencies (SLD) within one year of onset

Those children who continued to stutter:

- Were older (related to the growing awareness of the problem)
- Began stuttering after age three (passed the period of rapid language and vocabulary expansion)
- Were boys
- Had relatives whose stuttering persisted (chronic)
- Were children who continued to stutter 12 months after onset
- Had difficulties in other speech language areas
- Had negative reactions to the behavior
- Had higher frequency of part-word or single syllable word repetitions
- Multiple repetitions or longer length of a specific dysfluency
- Dysrhythmic phonation: faster speed and rate of repetition

Although this provides good prognostic information for the family and the clinician, it does not definitively determine which children will have remission and which are at risk for continuing to stutter into adulthood. Understanding the factors that may contribute to the onset, frequency and intensity of stuttering may also assist in determining those young children that need more direct service. “Genetic Factors are necessary but may not be sufficient to cause stuttering. Complex environmental factors appear to be involved as well as speech, language, motor, and personality-temperament aspects.” (Yairi, E. (2004). *The Formative Years of Stuttering: A Changing Portrait*. *Contemporary Issues in Communication Sciences and Disorders*, 31 92-104.

COMMUNICATIVE ENVIRONMENT	GENERAL ENVIRONMENT	CHILD FACTORS
Rapid rate of those around the child	Busy lifestyles with lack of routine	Genetic predisposition, progress of speech, language, motor, social, cognitive development, age of onset
Frequent interruptions and simultaneous talk. Reacting negatively to the stuttering	Frequent changes in the family, little predictability, few consistent routines	Temperament and sensory integration issues
Confrontational conversations or communications with heavy linguistic load. Asking multiple questions	High expectations, anxiety of parents/others, overall presence of conflict or stress. Sibling rivalry	High internal demand for rapid complex language Adapted from Chmela 2004

EARLY IDENTIFICATION OF STUTTERING LIKE DISFLUENCIES (SLDS)

The incidence of children under the age of three who are diagnosed as having SLDs is difficult to determine. The incidence of preschool children (age 2 through 5) is considered to be less than 1%. With the mean age of onset being 32.76 months, a significant number of the less than 1% would be over the age of three, leaving a very small number of children under the age of three.

The first step in early identification is to be able to make the differential diagnosis between normal developmental dysfluencies and stuttering-like dysfluencies (SLD). Evaluators must be able to collect a thorough child and family history to determine:

- The presence of stuttering among other family members
- The exact age of onset of stuttering
- The amount of time since the stuttering began

- The number of SLDs per 100 syllables demonstrated during evaluation
- Type of stuttering behavior at onset
- Changes in the behavior since onset

This information is critical to making sound decisions regarding intervention.

Providing information to parents regarding stuttering and its early progression may be one way of intervening for the young child that stutters and direct services for the older child (3 to 5) that demonstrates more significant SLDs. The SLP may be called on to provide indirect services to the family of the young child (3.5) with SLD. In this capacity the SLP can provide the following indirect services:

- Monitoring the change in the frequency or type of dysfluencies
- Counseling families, especially when there is a family history of stuttering
- Counseling families to evaluate and modify the verbal environment of the child
- Counseling parents about their own possible anxiety surrounding the child's stuttering

PROCEDURE CHECKLIST FOR DETERMINATION OF EVALUATION OR CONSULTATION FOR STUTTERING

- A decision to treat a stuttering behavior in a consultative mode with indirect services may be made on the following criteria:
 - Problem present less than 12 months
 - Onset under 3.5
 - Very episodic
 - Female
 - More normal types of dysfluency
 - Child unaware
 - Parents unconcerned
 - No other developmental issues
 - No history of stuttering in the family
- A decision to move toward a full evaluation and more direct service intervention may be made on the following criteria:
 - Problem present over 12-18 months
 - Onset after 3.5
 - Fairly consistent
 - Male
 - Part word repetitions, prolongations or blocks
 - Child aware or momentarily expressing frustration
 - Parents are concerned
 - Other speech language issues present
 - History of stuttering in the family

PROCEDURE CHECKLIST FOR DETERMINATION OF EVALUATION OR CONSULTATION FOR STUTTERING

Behaviors in the Young Child

The following table is provided to assist the SLP in differentiating/identifying the types of stuttering behavior. Stuttering behavior that is less likely to demonstrate remission and dysfluent behavior that is frequently exhibited in the typically developing young child are categorized in the table.

GUIDELINES FOR DIFFERENTIATING TYPICAL FROM NONTYPICAL DISFLUENCIES

	BEHAVIOR DEVELOPMENTS	STUTTERING	NORMAL/TYPICAL DISFLUENCY
SYLLABLE REPETITIONS	a) Frequency per word b) Frequency per 100 words c) Tempo d) Regularity e) Schwa vowel f) Air flow g) Vocal tension	More than two More than two Faster than normal Irregular Often present Often interrupted Often apparent	Less than two Less than two Normal tempo Regular Absent or rare Rarely interrupted Absent
PROLONGATIONS	h) Duration i) Frequency j) Regularity k) Tension l) When voiced (sonant) m) When unvoiced (surd) n) Termination	Longer than one second More than 1 per 100 words Uneven or interrupted Important when present May show rise in pitch Interrupted airflow Sudden	Less than one second Less than 1 per 100 words Smooth Absent No pitch rise Airflow present Gradual
GAPS (SILENT PAUSES)	o) Within the word boundary p) Prior to speech attempt q) After the dysfluency	May be present Usually long May be present	Absent Not marked Usually absent
PHONATION	r) Inflections s) Phonatory arrest t) Vocal fry	Restricted; monotone May be present May be present	Normal Absent Usually absent
ARTICULATING POSTURES	u) Appropriateness	May be inappropriate	Appropriate
REACTION TO STRESS	v) Type	More broken words	Normal dysfluencies
EVIDENCE OF AWARENESS	w) Phonemic consistency x) Frustration y) Postponements (stallers) z) Eye Contact	May be present May be present May be present May waver	Absent Absent Absent Normal

Adapted from: Connecticut Birth to Three System Service Guidelines #3 May 1998

FEEDING AND SWALLOWING

The information in this appendix is designed to help the SLP with an overview of the complex nature of swallowing and feeding in young children. It is not to be used as instructions for implementation or intervention without the support/direction of trained professionals.

Swallowing allows us to eat and drink, and ensures adequate caloric and nutritional intake for growth and development. Swallowing difficulties in the pediatric population may be transient, as is often the case with children recovering from a head injury, or permanent, as is more commonly seen in children with congenital conditions such as cerebral palsy that influence physical and neurological development. While swallowing difficulties are more likely in children with multiple, severe disabilities, they are also seen in children with mild neurological and/or physical impairment. Complications of swallowing difficulties can include aspiration which may result in recurrent pneumonia, chronic respiratory

illness, or lung disease as well as compromised nutrition which may result in failure to thrive status. Symptoms that may suggest swallow dysfunction include:

- Color changes, apnea, or bradycardia during feeding
- A chronic history of pulmonary difficulties which may include asthma like symptoms, bronchiolitis, recurrent pneumonias, or a persistent need for supplemental oxygen
- Neuromotor involvement that is impacting oral-motor coordination for swallowing and breathing
- Wet vocal or respiratory quality that emerges or intensifies during feeding
- Profuse drooling
- The presence of food or liquid when a child with a trach is suctioned
- Coughing, choking, or gagging while eating

It is important to look at a constellation of symptoms when attempting to determine how safe or functional a child's swallow may be. For example, we now have research indicating that the presence or absence of a cough or gag alone is not diagnostic in identifying the presence or absence of aspiration. Similarly, interest or disinterest in eating is not in and of itself reflective of swallow dysfunction. There are children who aspirate but enjoy eating and there are children who have no problems with aspiration who demonstrate food refusal or do not enjoy eating. It is important to remember that there are many reasons for difficulties with eating and swallowing including existing medical conditions such as gastroesophageal reflux, primitive or atypical oral-motor skills, avoidance responses or maladaptive

feeding behavior as a result of negative experiences with eating, or altered oral-sensory registration or processing. When evaluating swallow function we need to look beyond the presence of risk factors or aspiration to the child's general health, pulmonary status, weight, enjoyment of eating, and time spent on eating before making a determination about how safe or functional their swallow may be.

When swallowing dysfunction is suspected, the use of an Upright Modified Barium Swallow (UMBS) may be necessary. A UMBS offers us the opportunity to examine management of thin liquid, thickened liquid, puree, and/or solid food consistencies as the child is fed in their typical feeding position with familiar feeding utensils. The UMBS allows for the assessment of degree of aspiration and basis for aspiration and allows us to evaluate the effects of changes in bolus size, food consistency, taste, temperature and/or positioning on swallow safety and function. The purpose of an Upright Modified Barium Swallow Study is not only to identify aspiration or abnormality in swallow function but also to determine if the child's swallow is functional even though it may be atypical. When aspiration or an unsafe swallow is identified on an Upright Modified Barium Swallow Study, modification or withdrawal from oral feeding is often recommended. The Upright Oral Pharyngeal Swallow Study is NOT the study to choose for evaluation of gastroesophageal reflux, and similarly, an Upper GI is not the ideal study to assess swallow function. Aspiration on an Upper GI does not necessarily mean a child cannot eat by mouth as this study does not assess competency with various consistencies nor does it assess a child in their typical feeding position.

Pediatric dysphagia is complex and assessment in this area needs to be conducted by individuals with the appropriate expertise. It requires knowledge about both normal and atypical development of feeding and swallowing and good awareness of new research that may influence analysis of findings from a UMBS or recommendations for treatment. Many pediatric centers have multidisciplinary teams to assess and treat swallow dysfunction. It is critical that a swallow pattern is not incorrectly characterized as unsafe in order to avoid inappropriately modifying a child's diet or withholding oral feeding. When a reduction or withdrawal in oral feeding is advised in a child we impact bonding, socialization, and communication. This is particularly true for very young children and for many of our children who are severely impaired. When even a short period of non-oral feeding is recommended there is risk of developing oral sensory defensiveness or of creating difficulty transitioning from non-oral feeding back to oral feeding. For the families of our most severely handicapped youngsters, limiting or withholding oral feeding represents a significant loss as for many of these children eating by mouth may be their only "normal" skill. For all of our families, no matter how severely or mildly involved the child, dietary modifications can prove stressful and difficult to implement.

There is a great deal we do not yet know about swallow function in children. Most of what we know about swallow function comes from research completed on adults. We have very little research on normal swallow function in children or on typical swallow function in children with specific diagnoses such as cerebral palsy. The same is true

for treatment. Many of the treatment techniques described in the literature and currently used are appropriate for adults but not for children. The most effective intervention strategies for children currently remain altering consistency, bolus size, pacing of food/liquid presentation, taste, and positioning. It is important when intervening with children to consider the impact of the intervention on their emotional, social, and communication development. Because of the complex nature of pediatric dysphagia it is important to always evaluate new research and therapeutic interventions critically in terms of scientific rigor and quality.

PEDIATRIC FEEDING

The development of feeding skills in infants and young children is a complex task. A child's ability to eat safely and successfully is dependent on normal anatomy, well-coordinated muscle activity, sensory processing and a supportive feeding environment (Stevenson & Allaire, 1991). When there are concerns regarding the feeding process it is critical to consider all of these aspects in a comprehensive fashion in order to provide accurate assessment, diagnosis and treatment.

A feeding disorder often occurs in tandem with a variety of conditions that affect normal development, such as prematurity, gastroesophageal reflux, cerebral palsy, cardiac disorders, seizure disorders and other neurological problems.

A feeding problem can present in a variety of ways, including: chronic poor growth, compromised nutritional status, frequent food refusal, decreased

variety and volume of oral intake, persistent gagging while eating or tube-feeding issues such as transitioning to oral feeding and maintaining oral feeding skills with a gastrostomy tube.

Identifying the Problem:

It is important to look at feeding and eating within the context of the child's experience, including:

- Medical history
- Developmental skills
- The family situation

The pre-existing medical or physical condition such as gastroesophageal reflux or tracheoesophageal fistula may now be resolved or corrected, but the negative impact on eating may persist:

- Avoidance responses
- Maladaptive feeding behaviors
- Over-reaction to tactile input (hands, face and mouth)
- Primitive or atypical oral motor skills
- Emotionally charged feeding atmosphere

When infants or children are struggling with eating, there is always a reason. The reason or reasons must be determined by examining the behaviors that the child displays and the parents' perception of the feeding problem.

Children may present with difficulties that are related to the motor coordination necessary for eating:

- Inability to shift food within the mouth or difficulty organizing the food bolus and moving it to the back of the mouth for swallowing
- Inability to chew thoroughly, resulting in choking on solids or swallowing foods whole
- Tongue thrusting, resulting in loss of food from mouth
- Poor coordination of suck-swallow-breath processes

These motor-based difficulties may be easily observed, and the need for treatment may therefore be more obvious.

Difficulties that are based in sensory registration or processing can be less obvious or well defined:

- Persistent gagging behavior
- “Picky” eater or strong preference for foods based on taste or texture
- Narrow range of food in diet
- Difficulty transitioning to a more advanced diet
- Inability to touch or handle foods for self feeding
- Pocketing food or keeping food for a prolonged period in the mouth
- Poor ability to attend to eating or to stay at the table during mealtimes
- Minimal interest in food or eating, with low volume of intake
- Prolonged dependence on tube feedings with resultant oral defensiveness

Often, there is a combination of factors at play, and children can learn how not to eat when there are issues of fear, pain or discomfort. It is important to be alert to risk factors which may lead to a feeding disturbance, such as medical conditions (gastroesophageal reflux, allergies, surgeries) and developmental issues (delayed introduction to solids, hypersensitive gag response, lack of experience). Refusal of age appropriate tastes or textures may be a subtle indication of motor or sensory dysfunction, which warrants further investigation (Palmer & Heyman, 1993).

Pediatric feeding difficulties can be complex. Assessment and treatment in this area should be conducted by individuals with appropriate expertise. Best practice often includes contributions from Speech Language Pathologists, Occupational Therapists, Physical Therapists, Dietitians and physicians, and caregivers. Many pediatric centers have multidisciplinary teams to assess and treat feeding disorders.

Roles of Speech-Language Pathologists and Teachers of Children Who Are Deaf and Hard of Hearing in the Development of Communicative and Linguistic Competence: Joint Committee of ASHA and Council on Education of the Deaf

The Joint Committee of ASHA and the Council of Education of the Deaf (CED) published a technical report in 2004. The report provides a position statement and guidelines for a framework of synergistic collaborative approach to promote communicative and linguistic competence and related outcomes for children who are deaf or hard of hearing. SLP's should have the understanding of the interrelationship of linguistic, cognitive and social development as well as the understanding of how hearing loss, community, educational and familial factors effect the overall development of the child.

A number of studies conducted during the past 30 years confirm the relationship between language development and academic success for children who are deaf and hard of hearing. Factors that may influence the development of communicative competence of children who are deaf or hard of hearing include:

Educational placement and services

Access to the languages of home and school

Schools and family collaboration

Individual child and family variables (Baker-Hawkins & Esterbrooks, 1994)

Over the last decade several other documents have addressed the language learning and communicative needs of children who are deaf or hard of hearing.

(Commission of Education of the Deaf, 1988; Stredler-Brown & Yoshinaga-Itano, Sedley, Coulter, & Mehl, 1999). An underlying theme of these and related documents is the need to provide early, timely, culturally-sensitive family-centered

identification and intervention for children with congenital and acquired hearing loss to maximize communication access and development.

A critical component of these programs is the provision of services by personnel who are knowledgeable about language differences among spoken, signed and written language and the role models and communication skills needed to stimulate language development. (Seal, Rossi & Henderson, 1993)

The potential influence of a variety of factors must also be considered in the development of communicative competence. Factors include but are not limited to:

- age of onset/identification of hearing loss, Pertinent information about hearing status-age of onset and age of diagnosis, type and severity of hearing loss, etiology, potential for use of residual hearing, type of effectiveness of amplification/cochlear implant, preferred communication approach, parent values, goals and philosophy (Section 2, Colorado Quality Standards)
- age of use of amplification or other auditory/visual assistive technologies
- consistent use of amplification
- access to communication and language(s) home and school
- language models and communication partners
- individual ability to acquire language (through auditory, visual, kinesthetic senses)
- education and services
- access to appropriate early identification and educational programming for children who are deaf or hard of hearing and their families
- quality and quantity of communication and linguistic environments and services
- family and community support
- family, culture and community support for individuals for deaf and hard of hearing

- quality of family caregiver and child interaction
- family involvement
- individual characteristics of the child
- visual, auditory, motor and cognitive abilities
- presence of other disabilities co-occurring with hearing loss
- temperament, personality and learning styles

ASSESSMENT OF CHILDREN WITH HEARING LOSS

The team should contact the district or regional audiologist if a child has not passed the hearing screening or has a significant history of hearing fluctuations. The audiologist should review the child’s hearing sensitivity to determine if the audiological criteria for a hearing disability exist. (Colorado Exceptional Children’s Education Act, 2.02 (3): Colorado Quality Standards: Section One; Standards of Practice for Audiology Services in the Schools: September 2004)

Once the audiologist determines that the child has met the audiological criteria for a hearing disability, there are seven criteria that need to be considered by the team for a child with a hearing disability. Identifying any one or more of the seven criteria would prevent the child receiving reasonable educational benefits from regular education. Colorado Exceptional Children’s Act, 2.02 (3) Children who meet the audiological criteria for educationally significant hearing loss should have a comprehensive team evaluation that includes personnel who understand the unique nature of hearing loss and who are specifically trained to conduct these assessments. (Standard 6, Colorado Quality Standards)

A qualified assessment team needs to determine a deaf or hard of hearing child’s primary language

and preferred communication approach. Tests are administered using that identified language and communication approach and are conducted by professionals proficient in that approach. This practice assures assessments reflect an accurate measure of abilities regardless of mastery of spoken English. (Standard 8, Colorado Quality Standards)

Colorado procedures for assessment of children with hearing loss:

- for children birth-3: FAMILY Assessment
- for pre-school age children: Preschool Edition-Colorado Individual Performance Profile (Pre-CIPP)
- for school-age children: Colorado Individual Performance Profile (CIPP)

The Pre-CIPP/CIPP can be used at different times in a child’s educational program. (1) as an initial baseline assessment (2) to document progress (3)when advancing to the next level: grade/year (4) when transferring from one program to another (5) when considering a change in services. (Yoshinaga-Itano, Ruberry, and Stredler Brown)

DEVELOPING INTERVENTIONS FOR CHILDREN WHO ARE DEAF OR HARD OF HEARING

For children who have an identified hearing loss there are two additional areas to consider. These include the child’s access to communication and the child’s communication.

Current IDEA states “consider the communication needs and in the case of a child who is deaf or hard of hearing consider the child’s language and communication needs, opportunities for direct communication with peer and professional personal in the child’s language and communication mode, academic level and full range of needs including opportunities for direct instruction in

ASSESSMENT FOR CHILDREN WHO ARE DEAF/HARD OF HEARING

TEST NAME	AGE OF ADMIN	TEST TIME	PUBLISHER DESCRIPTION
Carolina Picture Vocabulary Test CPVT	4-11.6 yrs.	25-30 min.	Receptive sign vocabulary
Teacher Assessment of Grammatical Structures TAGS	PSL up to 6 yrs. SSL 5-9 yrs. CSL 8+ yrs.	Varies (based on observation)	Pre-sent. (exp/rec) Simple sent. (exp) Complex sent. (exp)
Scales of Early Communication Scales SECS	2-8 yrs.	Based on observation	Teacher rating Expressive/receptive development
Grammatical Analysis of Elicited Language GAEL	PSL 3-6 yrs. SSL 5-9 yrs. CSL 8+	Varies-depends on level up to 90 min.	Pre-sentence Simple sentence Complex sentence
CID Phonetic Inventory	Severe to profoundly deaf children	30-45 min.	Speech production/ Suprasegmentals, V, C, VC- measure progress
CID Picture SPINE Speech Intelligibility Evaluation	Severe to profoundly deaf children	25-30 min.	Global speech intelligibility rating-Measure progress over time
Rhode Island Test of Language Structure	SSL elementary	30 min.	Simple sentences/ Complex sentences Measures progress
CHILD Child's Home Inventory of Listening Difficulty	3+ years	5-10 minutes	Parent/child rating scale assessing listening in variety of conditions
ELF Early Listening Function	Birth +	5-10 minutes	
FAPE Functional Auditory Performance Indicators Evaluation	Birth +	Varies	Sound awareness to ling. Aud processing
PRE-S.I.F.T.E.R. Preschool Screening Instrument for Targeting Educational Risk	3yrs. To kindergarten	5-10 minutes	preacademics, attention, communication, class participation, social behavior rating scale
S.I.F.T.E.R. Screening Instrument for Targeting Educational Risk	elementary	5-10 minutes	academics, attention, communication, class participation, social behavior rating scale

the child's language and communication mode. Intervention should also consider communication access and ease of communication. Does the child understand teachers/service providers and peers? Do peers, teachers, and service providers understand the child? Can the child track conversations between multiple speakers and effectively participate in individual and group discussions? Does the child feel comfortable with communication partners in the small group, classroom or social situations? Communication access occurs when there is shared meaning. Information is heard/received at a language level that is understandable and meaningful.

When managing spoken language communicative competence the SLP and TOD will need to collaborate and work closely with the child's private and/or educational audiologist. Understanding the child's acoustic abilities within this framework of the communication choice is critical to setting realistic goals. Goals relative to small group, classroom listening, phonemic development and receptive language can often be better understood when the audiologist provides information and an understanding of the child's phonemic and acoustic access. Audiologists also facilitate communicative competence through modifying learning environments, amplification management and collaboration with the SLP and TOD in the provision of audiologic (re)habilitation services (ASHA, 2002a).

All programming options are considered and the placement is determined according to the communication needs of the child with a hearing loss as identified on the communication plan. The communication plan is a written plan that includes an action plan identified by the IEP team (including parents) identifying the child's primary mode of communication, availability of deaf/hard

of hearing adult role models, educational options available, the proficiency of the service providers in the child's identified mode of communication and communication access to instruction, school services and extracurricular activities. The Communication Plan will serve as a quality control monitor, making sure that a more comprehensive, qualitative view is taken of each child's experience in school. (The Deaf Child's Bill of Rights, Colorado State Law 96-1041)

The SLP should be familiar with the child's Communication Plan. If the SLP is not proficient in the child's mode of communication, the SLP should work collaboratively with the service providers to insure that the Communication Plan is being followed.

The educational team (including SLP and TOD) needs to insure that the student/child who is deaf or hard of hearing is an active participant in the cognitive life of the preschool setting/classroom regardless of the child's mode of communication. Peer and friend relationships, class participation, engagement in learning are essential for the development of thinking skills for all children. (Schick, 2004) All members of the educational team should focus on the child's communication plan, access to the educational program and the connection between the deaf or hard of hearing child and their teacher. The team should gather evidence of learning and discuss how much the child is included in class participation, is a respected team member in group projects/activities, and how the child is connected with the cognitive life of the classroom.

RESPONSE TO INTERVENTION (RTI)

The Response to Intervention (RtI) model is being infused into educational practices in Kindergarten through High School at this time. In the future, the RtI model may influence our practices at the preschool level. In light of this trend, the following information is a summary of this model. Information about RtI was taken from the NASDSE, 2005 document: Response to Intervention: Policy Considerations and Implementation.

Core Principles of RtI

- All children can be taught effectively
- Intervene early
- Use a multi-tier model of service delivery
- Use a problem-solving method to make decisions within a multi-tier model
- Use research-based, scientifically validated intervention/instruction to the extent available
- Monitor child progress to inform instruction
- Use data to make decisions

In RtI, three types of assessments are used: (1) screening applied to all children to identify those who are not making academic or behavioral progress at expected rates; (2) diagnostics to determine what children can and cannot do in important academic and behavioral domains; and (3) progress monitoring to determine if academic or behavioral interventions are producing desired effects. Implementation of RtI requires three essential components: (1) multiple tiers of intervention service delivery (a three tier model is used most frequently); (2) a problem-solving method; and (3) an integrated data collection/assessment system to inform decisions at each tier of service delivery.

Multiple Tiers of Intervention

One of the most effective ways to identify children with communication difficulties is to implement universal screening. Effective universal screening practices ensure accurate and early identification of children demonstrating difficulties in attaining critical communication and/or literacy skills.

With universal screening comes observation and recognition. An environment of heightened awareness, preparedness to act, and developmental monitoring that allows the respondents to act in a preventive mode is created. Universal screening is a key component that is recommended in Tier 1 of an RtI model. Specific examples of effective practices in Tier 1, 2 and 3 are noted below.

Tier 1: Screening and Group Interventions

In Tier 1, school districts provide a foundation of curriculum, instruction and school organization that has a high probability of bringing the majority of children to acceptable levels of academic proficiency. Tier 1 also includes teacher support to facilitate program delivery. First, a core instructional program that employs a scientifically validated curriculum is provided for all children. School districts choose curriculum that, (1) have been proven to help children achieve adequate levels of achievement (i.e. research-based curricula), and (2) provide instruction that is differentiated within the core curriculum to meet a broad range of children's needs. At this stage, teachers match children's prerequisite skills with curriculum content to create an appropriate instructional correspondence and use instructional strategies that are evidence-based and child-centered. Within Tier 1, the school administers universal screenings in core academic areas to identify each child's level of proficiency (usually three times per year). The screening data are organized in formats that permit inspection of both

group and individual performance on specific skills. Children who continue to fall below the norm for their respective age group on critical measures of performance are identified for additional supports at Tier 2.

Tier 2: Targeted Short-Term Interventions

In Tier 2, supplemental instruction is provided to those children who demonstrate poor response to group instructional procedures employed in Tier 1. These services are provided in addition to core instruction and can be developed through a problem-solving process or standard treatment protocol. The traditional method by which children receive support at Tier 2 is via school-based, problem-solving teams. The problem-solving process permits use of functional academic and behavioral assessments to identify the possible reasons why children are not mastering the required academic skills at the same time/pace as their peers. This process also allows teams to develop and implement individualized interventions specific to every child's needs. Progress toward targets or benchmarks is monitored regularly and children either move out of this targeted tier after having met these goals (return to Tier 1), or, teams determine that the intensity and frequency of intervention needs to be increased (move to Tier 3).

Tier 3: Intensive Instruction

The third tier of this model involves designing and implementing intensive instructional interventions to increase an individual child's rate of progress. These intensive services or interventions can be provided for children who have not demonstrated satisfactory progress in the classroom setting. In the third tier, interventions will likely include long-term goals and procedural approaches that may or may not include the provision of special education services. For example, a child whose diminished

performance is due to a lack of exposure to language may need to be provided with ongoing, intensive instruction. This can be delivered in more substantial blocks of time to help the child "catch up" to his/her peers, though this instruction may not take place within special education.

Another example is a child whose performance problems are directly related to limited English proficiency. Again, the child may need a long-term set of interventions that do not include special education. However, if a child's learning history and performance problems warrant further examination to rule out a delay or disorder, a multidisciplinary team, working under the parameters of IDEA, may determine if the child, (1) has a disability; and (2) needs special education to initiate or maintain acceptable rates of learning. Unlike the traditional eligibility determination system, however, the data used for consideration of eligibility for special education are the data that have been gathered through the provision of supplemental services using RtI practices in Tiers 1 and 2. At this stage, the need for further diagnostic procedures depends on the sufficiency of existing data, and must: (1) address all referral questions, and (2) facilitate the development of interventions that will be effective in improving a child's rate of learning. Children that fail to display meaningful progress in spite of intensive supports are then referred for additional intensive interventions and determination of eligibility for special education services. (Adapted from Response to Intervention Policy Considerations and Implementation, National Association of State Directors of Special Education, 2005).

EARLY CHILDHOOD PROGRAMS

Early Head Start And Head Start

Head Start's mission is to help children from low-income families start school ready to learn. Head Start's comprehensive programs and services incorporate all components of child development: early learning and literacy, health, disability services and family and community partnerships. Early Head Start (EHS) provides services to low-income families with children from birth to three years of age and to expectant families. EHS's mission is to: promote healthy prenatal outcomes, enhance the development of infants and toddlers and promote healthy family functioning.

Project Head Start began in 1965 as an Office of Economic Opportunity program. It was designed to help break the cycle of poverty by providing 4-year-old children from low-income families with a summer program to help prepare them for school. Over the years, Head Start has grown to serve preschool children from birth to age 5, and their families, throughout all 50 states, the District of Columbia, Puerto Rico and the U.S. Territories. In Colorado, local non-profit, private or governmental agencies or school districts may provide Head Start services. Many of these organizations serve children with a variety of needs by collaborating in blended programs while utilizing funding sources, such as the Colorado Preschool Program and Colorado's special education services. Head Start's early learning and literacy program is designed to meet both the individual needs of each child and the ethnic and cultural characteristics of the community. Each child's interest in learning is fostered through various learning experiences: language development, literacy, mathematics, science, social studies and creative arts. In addition to the

educational component, Head Start also includes critical program components in the areas of Family and Community Partnerships, Health, Migrant and Seasonal Services, Parent Involvement and Social Services. (Adapted from the Head Start Fact Sheet at http://www.acf.hhs.gov/opa/factsheets/headstart_factsheet.htm.)

Even Start

There are five purposes of Colorado Even Start:

- Help break the cycle of the negative impact poverty and illiteracy have on families by improving educational opportunities for the state's low-income households. Integral to this process is the establishment of a unified family literacy program, integrating programs for adult literacy (e.g. Adult Basic Education/English Language Learning), early childhood education and parental support.
- Provide parents with family-centered education
- programming to facilitate learning of literacy and parenting skills necessary to become full partners in the educational development of their children, from birth through age seven
- Help children reach their full potential as learners
- Support the implementation of the Colorado Basic Literacy Act
- Support the Colorado Department of Education's organizational commitment and the attainment of the state accreditation indicators

Even Start family literacy services are provided to participants on a voluntary basis. These services consist of a sufficient number of hours for the length of time a family requires to make sustainable changes and integrate the following four components into their lives:

- Adult Education: Parent literacy training that can ultimately lead to economic self-sufficiency.
- Early Childhood Education: An age-appropriate education to prepare children for academic and personal success.

- Parenting Support: Training and support for parents aimed at teaching adults how to be the main teacher for their children and full partners in their family's educational process and progress.
- Parent and Child Together: Interactive literacy activities between parents and their children.

Families eligible to participate in Even Start programming have children from birth to seven years of age. Adults in the family lack sufficient mastery of basic educational skills needed to function effectively in society; or do not have a secondary school diploma or its recognized equivalency; or are unable to speak, read, or write the English language.

The Literacy Involves Families Together (LIFT)

The Literacy Involves Families Together (LIFT) Act of 2000, enacted by Public Law 106-554, amends Section 14101 of the Elementary and Secondary Education Act (ESEA) of 1965 to include a common definition of “family literacy services” for all ESEA programs, including Title I, as follows: Services provided to participants on a voluntary basis that are of sufficient intensity in terms of hours, and of sufficient intensity in terms of hours, and of sufficient duration, to make sustainable changes in a family, and that integrates all of the following activities:

- Interactive literacy activities between parents and their children
- Training and support for parents regarding how to be the primary teacher for their children and how to be full partners in the education of their children
- Parent literacy training that leads to economic self-sufficiency
- An age-appropriate education to prepare children for success in school and life experiences.

Early Reading First And Reading First

On January 8, 2002 the President enacted the No Child Left Behind Act of 2001, which added two important new reading programs to the Elementary and Secondary Education Act: Reading First and Early Reading First. Early Reading First was created to address the growing concern that many of our nation's children begin kindergarten without the necessary foundation to fully benefit from formal school instruction. Early Reading First is a bold initiative aimed at creating early childhood centers of excellence that prepares children to enter kindergarten with the necessary language, cognitive and early reading skills for learning success. Early Reading First is a nationwide effort providing funds to local education agencies and public or private organizations that serve children from low-income families. Based on the understanding that literacy is a learned skill, not a biological awakening, the initiative promotes coherent, skill-based instruction in the years before kindergarten. Federal funds are awarded competitively to local programs that show they will enhance young children's language and cognitive development by providing high-quality instruction and ongoing professional development based on scientific research. For more information go to www.ed.gov and search ERF.

Colorado Preschool And Kindergarten Program

The Colorado Preschool Program (CPP) was enacted by the General Assembly as part of the Public School Finance Act of 1988. This program was designed to serve children who lack overall learning readiness due to individual and family risk factors. These risk factors increase the likelihood that children will not achieve their full potential, drop out of school and become

involved in criminal activities. By providing quality early childhood programs and family support, the Colorado Preschool Program is proving these risk factors do not have to preclude high achievement.

The number of children who are served in the Colorado Preschool Program is capped at a level set by the State Legislature. In the 2004–05 school year the Colorado Preschool Program was authorized to serve 9,050 children. This number includes 1,000 children who can be served in the second half of their kindergarten day. Eighty-six percent (154 out of 178) of the districts in Colorado voluntarily participate in CPP. Each of the participating school districts is awarded a CPP “slot” allocation. Colorado Preschool Programs are overseen by a District Council which is made up of representatives of key stakeholders and service providers in the community. District councils determine where CPP children are best served in a community. Twice a year, the councils monitor programs using the “Colorado Quality Standards for Early Care and Education Programs.” CPP children may attend public schools, Head Start programs or other community programs. Funding is provided for four half days of pre-school services each week of a school year. All programs have a parental involvement component that includes home visitation. District councils also collaborate with other local service agencies to provide comprehensive support to the family.

Section 22-28-106 of the Colorado Revised Statutes provides guidelines on eligibility criteria for children. It is the responsibility of the local District Council to establish a clear policy for the determination of child eligibility, which ensures that the program serves children with the highest need. A child who is eligible for state funding through early childhood special education is not eligible for Colorado Preschool Program funding.

Current information about the Colorado Preschool Program can be found at http://www.cde.state.co.us/cdeprevention/pi_colo_preschool.htm, including a directory of the school districts that participate in CPP, the CPP Handbook and the Colorado Preschool Program 2005 Report to the Legislature.

Results Matter

Results Matter is an early childhood outcome initiative developed in response to new mandates for child and family outcomes reporting. “The program utilizes short term child progress data, a longitudinal study, family outcomes surveys and program quality measures. It includes extensive staff development plans for improving assessment skills, learning to use identified instruments and linking assessment to instruction and intervention planning”. Results Matter’s goal is to positively influence the lives of children and families by using ongoing assessment, program evaluation and stakeholder input to:

- Describe and value child progress over time
- Inform and influence day-to-day interactions and interventions provided by the adults in a child’s life
- Make data driven program and policy decisions
- Demonstrate program efficacy

The program is guided by the principles that a system should be inclusive, multi-dimensional, serve multiple purposes and respect local efforts. Child outcome measures should be:

- Based on sound theory and research
- Contextualized, naturalistic and authentic
- Culturally and linguistically sensitive
- Collected information over time
- Collected information from primary caregivers and families

Results Matter activities include Early Childhood Connections, Colorado Preschool Program, Preschool Special Education, Even Start and Migrant Education Even Start. Groups that participate in the program receive training and technical assistance in assessment, data collection, analysis and reporting (Results Matter, 2005).

Educating children from immigrant and ethnic minority group families is a major concern of school systems across the country. For many children, US education is not a successful experience. It is reported that one tenth of non-Hispanic White children leave school without a diploma. Further reports state that one fourth of African Americans, one third of Hispanics, one half of Native Americans and two thirds of immigrant child/children drop out of school (Grognet et al, 2000).

The Colorado Home Intervention Program

The Colorado Home Intervention Program (CHIP) was initiated by a federal grant in 1969. When the grant ended, the Colorado Department of Public Health and Environment adopted the home program in response to an increasing need to serve infants and toddlers in their own home. Over the years, the services of the CHIP program have expanded to include family-centered assessments, in home sign language instruction, deaf adult role models, bilingual providers, and a quarterly newsletter. There are now ten Colorado Hearing Resource (CO-HEAR) Regional Coordinators who oversee community-based intervention services. Referrals to CHIP are made by the diagnosing audiologist. The Co-Hear coordinator is a member of the team that develops the Individualized Family Services Plan (IFSP). When transitioning from Part C early intervention to Part B preschool/school age program, members of the IFSP team meet with the staff in the school district or regional program to create the IEP and identify the appropriate preschool services available.

CREATING AN EFFECTIVE AND EFFICIENT SYSTEM FOR YOUNG ENGLISH LANGUAGE LEARNERS WITH SPECIAL NEEDS

A Self-reflection Tool

This tool serves as a guide for teams, school personnel, and district administrators to explore key variables involved in providing quality service and supports to young English Language Learners with special needs. It may be used at the school and/or district or BOCES level to assess the status of your system in educating children and from diverse cultural and linguistic backgrounds. Teams of administrators, classroom teachers, English as Second Language teachers, special education personnel and other appropriate participants can review the indicators of a successful system. Results of the analysis will help identify school and district strengths, and areas of need in which more technical support, time, and/or resources are necessary. An effective action plan can then be developed.

The tool is organized around eight steps that define an effective and efficient process for meeting the needs of young English Language learners with exceptional needs. The process is based on research-based instruction and positive behavioral supports for ALL children, combined with the research base and legal parameters that define practices for English Language Learners.

The 8 Steps are embedded in a three-tier model based on the premise that most children will progress typically through the stages of development as expected if provided qualified teachers and research based instruction and/

or a nurturing home environment (Tier One). Then, if children are not progressing as expected, targeted interventions with specialized supports and services need to be made available (Tier Two). If after sufficient time with appropriate supports, children do not respond to interventions, a referral to special education or other individualized response may be appropriate (Tier Three).

The 8- Step Process and Three Tier Model are derived from research, values, strategies, and policies that promote access, equity, and academic success for all children. These steps are aligned with Office of Civil Rights criteria, Individuals with Disabilities Education Act, and the No Child Left Behind legislation. They reflect a systematic approach for the identification, assessment, placement, and monitoring of children who are ELLs and may have a disability or other special needs. They involve a systemic approach to collaboration among all stakeholders with focus on involvement of families in the education process, research-based instruction, accountability, and access and equity for all children.

A Self-reflection Tool

Adapted from In Consideration of the 8 Step Process: A Self-Reflection Tool for Personnel, Schools & Districts~ Susan M Moore & Clara Perez Mendez, University of Colorado, Boulder (Refer to Systemic Planning for ELLs (ELLEN) The Colorado Dept. of Education and Meta Associates, 2004 for explanations of each indicator)

TIER I: STEP 1 SYSTEMIC EDUCATIONAL APPROACH: KEY COMPONENTS

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
We have a systematic process for the identification, assessment, placement, and services for English Language Learners (ELLs).				
The unique language, culture and learning styles of all children are honored and valued as reflected in our written policies and practices.				
Individual needs of children are met through collaborative processes involving parents, teachers, related service personnel and administrators.				
Appropriate and valid assessments (with interpreters as needed) are aligned with early childhood standards and take into account stages of 2nd language acquisition.				
Targeted instructional strategies and interventions are implemented to enhance learning and make content comprehensible for all children.				

TIER I: STEP 1 SYSTEMIC EDUCATIONAL APPROACH: KEY COMPONENTS

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
<p>All children are held to high standards and expectations.</p>				
<p>A variety of measurement tools and strategies contributes to our accountability and guides instruction and program planning.</p>				
<p>There is a comprehensive personnel development plan in place to enhance ability of educators to understand issues of culture, language proficiency, differentiated instruction and appropriate practices.</p>				
<p>Policies and practices support family involvement and participation in all aspects of a child’s educational program</p>				

STEP 2 IDENTIFICATION OF PHLOTE (PRIMARY HOME LANGUAGE OTHER THAN ENGLISH)

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
<p>A survey to determine home language is given to the family of each child entering the program/school.</p>				
<p>Trained interpreters are used effectively when needed during this step of the process.</p>				
<p>The survey provides us the information we need to make a decision regarding assessment of English language proficiency.</p>				
<p>Criteria are clear as to eligibility for ESL programs or supports.</p>				
<p>There is a plan for programming options of children identified as having a PHLOTE.</p>				

STEP 3 ASSESSMENT TO DETERMINE THE NEED FOR LEP SERVICES

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
<p>Appropriate tests are used to determine level of English proficiency in listening, comprehension, reading, writing and speaking.</p>				
<p>Information is used to plan for programming options of children.</p>				
<p>Accountability processes are written and in place for maintaining information, periodic re-administration, and communication of results to all concerned.</p>				
<p>Professional development is provided for appropriate use of language proficiency assessment tools and procedures.</p>				

STEP 4 PROVIDING SERVICES FOR CHILDREN WHO ARE LEP

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
We have a written plan describing what is available for qualified English Language Learners.				
Classroom teachers and ELA/ESL staff are collaborating to teach content and English acquisition.				
Instructional strategies are research-based.				
Children's progress is measured and aligned with English Language Development standards.				
We have a professional development plan that includes development of skills and credentials needed for this step.				

TIER II: STEP 5 TARGETED ASSISTANCE

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
<p>We have a child study process (or something like this) in place to collaboratively problem solve and implement solutions when children experience difficulties.</p>				
<p>The Child Study includes observation, formal and informal measures to determine children’s needs and progress.</p>				
<p>Family members are involved in the decision-making process regarding their child’s needs.</p>				
<p>There is a clear plan with research-based strategies for implementation, including what is to be done, who is responsible, and the supports to be provided.</p>				
<p>Data regarding progress are collected, results documented and communicated to all concerned.</p>				

GRAY AREA STEP 6 SPECIAL EDUCATION REFERRAL

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
<p>Children who are experiencing difficulties have been attended to through a Child Study process before referral to SpEd.</p>				
<p>Documentation of what has been tried with what results is available at the referral.</p>				
<p>Educators knowledgeable about second language acquisition, gifted and special education are part of decisions to refer.</p>				
<p>Parent rights and other forms are explained (with trained interpreter as needed/requested) and appropriate permissions are obtained.</p>				

STEP 7 SPED IDENTIFICATION PROCESS

QUALITY INDICATORS	NEED	EMERGING	ESTABLISHED	ACTION/RESOURCES NEEDED
<p>There is evidence that the child has had appropriate time for native and English language acquisition to expect progress before a decision to place a child in SpEd is made.</p>				
<p>A multidisciplinary team of qualified professionals use assessment methods and materials that minimize cultural and linguistic bias, determine eligibility and develop an IFSP.</p>				
<p>Parents, ELA/ESL professional, SpEd assessment team (interpreter if needed), and general education teacher are all involved in identification-IFSP process.</p>				
<p>Determination of eligibility made after determining that: 1) the child has received appropriate instruction and supports 2) the child's language proficiency and cultural experience are not the cause of difficulties with learning 3) the child exhibits a disability and 4) requires specialized instruction and services to benefit from general education in Least Restrictive Environment (LRE).</p>				
<p>An appropriate IFSP is developed identifying collaborative services and supports and reflecting the language needs of the child.</p>				

INFORMATION

CHILD'S NAME	DATE
DOB	AGE
INTERVENTION	
CULTURES	
LANGUAGES	
SCHOOL EXPERIENCES	
LANGUAGE PROFICIENCY LEVEL LEP FEP (does not apply to NEP)	
OTHER FACTORS	

INSTRUCTION/PROTOCOL: MAXIMIZATIONS	(Circle: 5 high to 0 low)
<input type="checkbox"/> Does the instruction/protocol increase time and practice of the skill?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase number of examples of the skill?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase repetition of concepts?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase the focus of the skill (narrow it down)?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase progress monitoring compared to peers?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase feedback to the student?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase student-to-student interaction?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase opportunities for instruction-related student talk?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol increase the student's use of functional language?	5 4 3 2 1 0
TOTAL MAXIMIZATION APPLICABILITY SCORE	(total/45) = %

INSTRUCTION/PROTOCOL: MINIMIZATIONSS	(Circle: 5 high to 0 low)
<input type="checkbox"/> Does the instruction/protocol decrease the number of students in the instructional group?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol decrease the number of concepts taught at one time?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol decrease the number of steps in processes?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol decrease the linguistic complexity?	5 4 3 2 1 0
TOTAL MINIMIZATION APPLICABILITY SCORE	(total/20) = %

INSTRUCTION/PROTOCOL: INSTRUCTION	(Circle: 5 high to 0 low)
<input type="checkbox"/> Does the instruction/protocol teach for mastery of essential skills and English language acquisition?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol teach for fluency of the skill?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol teach organization and processes?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol teach thinking skills?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol teach for vocabulary acquisition?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol teach through the use of visual aids?	5 4 3 2 1 0
<input type="checkbox"/> Does the instruction/protocol teach using contextualized language?	5 4 3 2 1 0
TOTAL INSTRUCTIONAL APPLICABILITY SCORE	(total)/35 = %

PERCENT OF APPLICABILITY FOR THIS INTERVENTION
 (Maximizations total + Minizations total + Instruction total)/100= %

For LEP students: 80-100% is appropriate For FEP students: 50-100% is appropriate

If the score is below 50%, the intervention is not appropriate for an ELL

Directions for completing the Intervention Analysis

Note: It is extremely important to have a person knowledgeable about second language acquisition involved in the analysis of any intervention for an ELL!

1. Fill in the name of the intervention being analyzed.
2. Fill in the student's identifying information including language proficiency level (this analysis is for students at the Limited English Proficiency or Fluent English Proficiency levels, not Non-English Proficiency)
3. Look over the intervention guide (if pre-packaged), or the protocol or instructional methods that are used in the intervention.
4. On the maximizations section, rate each of the questions high or low. (i.e. for number one, if the instruction/protocol increases time and practice of the skill, but not by much, it might receive a 2 or 3 for that particular question. However, if it increases the time and practice by quite a bit, it might receive a 4 or 5). Continue with the remaining questions.
5. On the minimizations section, rate each of the questions high or low based on what the intervention decreases. (i.e. for number one, if the instruction does not decrease the number of students in the instructional group compared to what the student is already receiving in the classroom or ESL classroom, then it would receive a low score {0 or 1}). Continue with the remaining questions.
6. On the instruction section, rate each of the questions high or low based on what the intervention provides. (i.e. for number one, if the instruction does teaches mastery of skills, but does not include an English Language Acquisition component, it would receive a medial score (3)). Continue with the remaining questions.
7. At the bottom of each section, record the total number of points given divided by the number possible to give a percentage of applicability. If one of the sections is significantly lower than the others, that would be the area to maximize, minimize or change.
8. At the bottom of the second sheet, total all of the scores together to get a possible percentage out of 100 points (combining the maximizations, minimizations and instruction scores).
9. For LEP students, 80-100% is appropriate and for FEP students 50-100% is appropriate. DO NOT USE THE INTERVENTION IF IT IS BELOW 50%.

WHAT HAPPENS?

The district identifies LEP students for special education in a nondiscriminatory manner using a multidisciplinary team to assure due process and placement in the Least Restrictive Environment.

Assessment for LEP students is individually tailored to reflect the students' language/culture and provide information that drives instruction and services.



HOW DO WE ASSESS LEP STUDENTS?

The district assesses LEP students using a multidisciplinary team process with methods/materials that minimize cultural/linguistic bias. Guidelines for multidisciplinary team processes should be in place in the district (See the sample guidelines that follow).

WHO?

Qualified professionals and interpreters with training in assessing LEP students.

WHAT TOOLS AND STRATEGIES ARE USED?

Valid and reliable assessments are not available for most populations. Use informal assessments, data on responsiveness to intervention, family/student interviews, and observations. (most of this should already have taken place at Step 5, but more information may be needed)



HOW DO WE DECIDE IF STUDENTS QUALIFY?

Using all available information, the team documents that:

- 1.** the student has had appropriate instruction and supports for a sufficient amount of time
- 2.** the child's language proficiency/cultural experience is not a cause of the difficulties
- 3.** the child has a disability
- 4.** the child requires specialized instruction and services to benefit from general education

WHO?

Parents, school principal (or designee), ELA professional, SPED assessment team, interpreter (if needed), general education teacher, district SPED administrator



MINIMAL COMPETENCY CORE FOR A CHILD 3.0 YEARS OF AGE

Categories of Language Form

Morphology/Syntax

- MLU (2.7-3.6) passing score was 3.1- 4.43_____
- Elaborated Simple Sentence (subject+ verb+ complement (I want _____)
- Noun modifiers (the,a,an,that,this,other)_____
- Inflections (ed,ing,verb+s)_____

Semantic categories (Major)

- Existence (labeling of a person / object present)
- State (state of being – hungry)
- Action (eat)
- Locative Action (go outside)
- Locative State (house [locative] big [state])

Semantic categories (coordinated)

- Specifier(
- Possession (Mommy's my, mine_____
- Negation (isn't no, not)_____
- Time (now, seen)
- Attribution (size shape, quality)
- Quality (lots, any, each)
- Recurrence (more eat, 'nother bite)

Superordinate

- Coordination (and)
- Causality (because)

Pragmatic Categories

- Initiates Interaction(greets says Hi)

Elicits Language

- Comments on objects/events
- Asks questions
- Requests objects & actions

Responds to Language

- Relates comment to prior speaker turn
- Answers questions
- Imitates Spontaneously

Clears the Communication Channel

- Requests repetitions (huh?)
- Repeats words on request
- Closes Interaction (bye-bye)

Phonology

- Nasals /m/n/
- Stops /p/t/k/b/g/d/
- Fricatives /f/s/h/
- Glides /w/j/
- Final consonants
- Initial blend

Stockman, I. J. (1995). Is language sampling a workable alternative to identifying language impaired children? Annual Symposium on Research in Child Language Disorders

CULTURAL AND LINGUISTIC DIFFERENCES

Native American Differences

A number of sources report more frequent occurrence of communication disorders in the native American population when compared to the general U.S. population (Johnson, 1991). Native American children surpassed the national average in nine disability categories (Battle, 2002). According to the 2000 child count, 1% of children served under Part C were American Indian/Alaska Native. The most common disability category for this group of preschoolers was developmental delay. Early Childhood settings were the most common placement for American Indian children (i.e. 44.9%) (US Dept. of Education). The US Public Health Service and the World Health Organization have identified this population as “underserved” in speech, language and hearing services (ASHA, 1991) and hypothesize that this higher rate of communication disorder in young Native American children may be related to the higher incidence of Otitis Media resulting in hearing deficits, language disorders and language delays (<http://www.nidcd.nih.gov>).

An important consideration is that cultures differ in the way they view disabilities. “Words such as disability, impairment, handicap and rehabilitation are not easily translated in Indian languages” (Westby & Vining, 2002). Vining & Allison (2000) revealed that disabilities in this culture are a result of violations of moral virtues by the First People. Clinicians typically try to gather information about how the disability impacts a family; however, these ideas are closely tied to religious beliefs for many Native Americans and are not to be shared with mainstream culture.

Native American culture encompasses approximately 154 remaining languages with differences in mainstream and cultural interaction styles. The dialectical differences of these remaining languages may impact the acquisition and/or use of English in the areas of:

1. Phonological/phonemic characteristics
2. Morpho-syntactic rules
3. Tribal language grammar and markings (Leap, 1993).

Many researchers have provided illustrations of the differences encountered in the Native American population. Navajo, Apache and Pueblo languages’ words generally begin with consonants and end with vowels. Frequently, native speakers of language used by this population will delete final consonants or substitute consonants with a glottal stop, which is the most common sound in their language (Miller, 1997). In addition, these languages do not have voice distinction between /b/-/p/, /d/-/t/, /g/-/k/. Native American children learning Standard American English as their second language frequently present with difficulty distinguishing these sounds.

There are also grammatical and inflection differences in the languages used by Native Americans. Westby and Vining (2002) reported that Southwest Indian languages have a subject-object-verb sentence structure, verbs are highly inflected and there are no gender pronouns or pronouns for ‘it’. In pueblo language, infinitives and dependent clauses are rare. Native American narratives differ from standard American English in function, content and structure. Furthermore, SAE narratives are linear, while Native American narratives are non-linear.

As previously stated, variations in communication skill development in these populations are normal and should gradually disappear as children's language skills develop. Although the number of controlled studies is limited, it is generally believed that there is no difference in the pace of language acquisition between monolingual and bilingual children during simultaneous language acquisition (Langdon & Cheng, 1992).

Young Children Of International Adoption

International adoption has increased in the United States and Europe. These children are often adopted from countries with a language and culture very different from the adopting family. Most of these children arrive in their adopted homeland after many months of being immersed in the language and culture of their birth. There is currently very little documented evidence about speech and language development of adopted children following entry into the United States. Children adopted from Eastern European countries such as Poland, Romania, Hungary and the former USSR differ in their pre-adoptive experience and placement from children adopted from Korea and China. Children coming from Korea as an example are more likely to have come from small families or foster care, (Hwa-Froelich & Matsuo, 2005) while children adopted from Eastern European settings are more likely to have been placed in an institution or orphanage that do not allow for a rich one on one communicative interaction.

SLPs and early interventionists have long recognized the impact of the early speech and language experience on the developing child. It has been reported that infants are born with the capability to produce a stream of speech sounds that encompasses all sounds of all languages of the world. During the first nine months of their

lives, infants begin to mold to the prosody (i.e. rate, intonation, stress patterns) and speech sounds of their native language and acquire the foundations for the language environment they were born into. By four to five months of age infants can differentiate between languages from the same families, suggesting that language can change over the first year of life as exposure is altered. By one year of age this malleability or plasticity is no longer an option for the infant. Children simultaneously developing a working knowledge of two languages (bilingual) are often supported in the native language while being introduced to the second language. Children internationally adopted are required to make an abrupt language switch (monolingual switch to monolingual) prior to achieving any competency in the first language. Although some may view these children as English Language Learners (ELL) they follow a very different pattern of language acquisition and any intervention or assistance should allow for these differences.

Prior to adoption, many variables may impact all aspects of language and learning and should be considered as possible factors that may significantly influence later development. Medical issues that impact development and adaptation to new settings such as otitis media, poor nutrition, deficient immunizations, untreated vision and hearing problems must be considered. Additional variables to consider include: institutional living (time or age at adoption), exposure to trauma and toxins before and after birth, health care, and social interaction.

Susan Hough PhD, CCC-SLP of Washington Hospital Children's therapy center has been collecting data and observations on Children of international adoption and commented that children coming from Eastern European

orphanages differ from other international adopted children in gender, ratios, and exposures to environmental toxins such as lead and alcohol. Dr. Hough reported that girls had more expressive language deficits while boys had more problems in reading. These findings suggest that the difficulties appear to be more linguistic in nature. Dr. Hough suggested that SLPs keep a few points in mind when reviewing progress and assessing children of international adoption.

Children lose one month of development for every three months in an orphanage or institution. (Based on research by Dana Johnson MD, PhD of the University of Minnesota adoption Clinic) Children over the age of two adopted before eighteen months can be assessed with standardized language assessment norms while those children adopted after that age should not be assessed against standardized assessments until two years post adoption (Mosheim, 2006).

How this process affects a young child when he/she is adopted and transported to a new country, language and culture is a question to consider. One study examined the language development of 55 preschool age children adopted from China who had resided in their permanent home for

more than 2 years. The vast majority of these children scored average to above average on language tests. Thirteen percent of the children received some type of intervention during the first 2 years of life. (Roberts, et.al, 2005) Information suggests that a variety of risks can be successfully identified and addressed by designing and implementing robust models and careful monitoring of these children. Outcomes may appear different when considering toddlers and children that were adopted from areas in Europe after many months/years in institutional settings with limited social interactions and care.

SYNDROMES AND CONDITIONS ASSOCIATED WITH COMMUNICATION DISABILITIES

A syndrome is a distinct collection of symptoms; some are genetic, while others arise from disease or conditions acquired prenatal or postnatal. The syndromes and conditions listed below are divided into three broad categories that generally reflect

origins of acquisition. Genetic/chromosomal, Biological/ Congenital) Present at birth or shortly after, Biological Environmental/Metabolic (such as prenatal/postnatal exposures to (such as exposures to harmful substances, metabolic disorders and disease trauma or disorders)

SYNDROMES AND CONDITIONS ASSOCIATED WITH COMMUNICATION DISABILITIES (CONTINUED)

GENETIC/CHROMOSOMAL

Angleman	A neurogenic disorder usually caused by a deletion of DNA from the 15th chromosome characterized by stiff jerky gait, severe developmental delay, absent speech, happy demeanor, protruding tongue and seizures. Feeding problems.
Beckwith Weidman	Genotypic abnormalities of the distal region of chromosome 11. Infants are generally large for gestational age with a neonatal onset of hypoglycemia. Post natal overgrowth, large tongue often there are pits of the external ear and organ overgrowth. 1 in 15,000 births
CHARGE Association	Characterized by cleft of the eyeball (caloboma) heart defects, (atresia choanaw) blocking of the airway, and retardation of growth, genitourinary problems, ear abnormalities, and hearing loss. 1 in 10,000 births
Cri du Chat Syndrome	Deletion of short arm of the 5 chromosome, mental retardation, narrow oral cavity
Crouzon and Apert Syndromes	Most common craniosynstosis syndromes(infant cranial sutures close too early). 1 in 100,000 births
Down Syndrome	Trisomy 21. Most frequently reported genetic syndrome characterized by hypotonia with open mouth posture, hyper flexibility of joints, mental retardation. Occurs in 1 out of 800 births
Edwards Syndrome	Trisomy 18 Hearing impairment and retardation Rare.
Fragile X Syndrome	Fragility on the x chromosome Characterized by prominent forehead, long narrow face, large ears, hypotonia. Presence of retardation and specific language characteristics. 1 in 1000 live born males and 1 in 2000 live born females
Klinefilter Syndrome	(XXY) Characterized by stigmata of X chromosome which appears at puberty Progressive mental retardation and progressive hearing problems
Neurofibromatosis	Autosomal dominant Genetic disorder of the nervous system which causes tumors to form on the nerves anywhere in the body. Progressive disorder that affects all races and sexes equally. 1 in 3000-4000 live births
Noonan Syndrome	Autosomal dominant Characterized by cardiac, pulmonary, skeletal defects and craniofacial abnormalities. Expressive language deficits, possible mental retardation. Occurs 1 in 1000 live births

GENETIC/CHROMOSOMAL (CONTINUED)

Opitz syndrome	Caused by a deletion of multiple genes on 22q11.2 appears to be x linked to recessive inheritance. Speech is typically delayed and velopharyngeal insufficiency is sometimes present resulting in resonance issues. Language is delayed resulting from cognitive challenges.
Patau Syndrome	Trisomy 13. Multiple handicaps of craniofacial area, hands, heart, and gonads. Rare 1 in 6000 births
Pierre Robin	Characterized by micrognathia glossoptosis (tongue fall back) air obstruction and incomplete cleft of the palate
Prader-Willi	Genetic disorder abnormality of chromosome 15 that is characterized by short stature, mental retardation or learning disability, low muscle tone, an involuntary urge to eat coupled with reduced need for calories which leads to obesity. On of 10 most common conditions seen in genetic clinics
Stickler	Believed to be a result of a mutation of genes during fetal development. Most common tissue disorder in the U.S. Characterized by some degree of cleft palate, cataracts, flat face, small jaw, skeletal abnormalities. Affects 1 in 10,000 persons
Turner Syndrome	45 x. Affects only females characterized by webbing of the neck, short stature, and female hormone deficiency. Frequently have conductive hearing loss and recurrent otitis media About 65% have sensory neural loses
Treacher Collins	Believed to be caused by a gene change on chromosome 5 which affects facial development. Characterized by down slanting eyes, notched lower eyelids, absence of cheekbones, small lower jaw, and ear anomalies. 40% will have hearing loss and there is an elevated risk for cleft palate
Velocardiafacial VCF	VCF, Shprintzen,22g11. Characterized by hyper nasality learning disabilities, speech and language impairments, cardiac difficulties, cleft palate (sub mucous, occult) growth deficiencies, immunologic and metabolic abnormalities and behavior difficulties. 1 in 2000 children born with VCF, it is reported to be the second most common genetic disorder.
Waardenburg Syndrome	Autosomal dominant Characterized by developmental anomalies of the eyelid, eyebrows, and a pigmentary defect of the iris and congenital sensorineural deafness.

BIOLOGICAL/METABOLIC DISORDERS

Infant PKU	A genetic disorder that prevents a person from processing phenylalaine a substance found in meat. Without intervention, PKU results in severe retardation. Rare occurring in 1 in 80,000 births
Mucopolysaccharidoses	A family of genetic diseases characterized by lysosomal storage disorders creating an enzyme deficiency. Most common are Hurler and Hunter's syndrome. They are rare occurring in only 1 in 16,000 to 30,000 births. Generally accompanied by combinations of receptive, expressive language, cognitive and auditory disorders.

BIOLOGICAL/CONGENITAL CONDITIONS

Cleft Palate/lip	Among the most common birth defects occurring 1 in 800 live births. 75% are isolated and 25% are associated with other syndromes. Monitor for cardiac, auditory, and central nervous system disorders/conditions
Cerebral Palsy	A number of neurological disorders that appear in infancy or early childhood and permanently affect body movement and muscle coordination and don't worsen over time. Most common are ataxia and spasticity.
Sturge Weber Syndrome	Population frequency and etiology not known. Major systems affected include: integumentary, craniofacial, dental, ocular, and central nervous system. Speech is almost always delayed with sluggish speech patterns. Language delays are frequently present secondary to neurological issues.
Autism Spectrum Disorder(ASD)	Recently said to be present in 1 out of 167 children. There is a qualitative impairment in the social interaction and reciprocity in both verbal and non verbal communication. The child also exhibits restrictive or repetitive interests and behaviors

BIOLOGICAL/ENVIRONMENTAL DISORDERS

Congenital Cytomegalovirus (CMV)	CMV is a member of the herpes virus family. 40,000 infants are born with congenital CMV each year which is transmitted through the placenta from mother to fetus. Whether due to a severe disease at birth or to a long term sequellae of latent infection, Congenital CMV is a leading cause of congenital deafness and mental retardation.
Human Immunodeficiency Virus (HIV)	Communication disorders can coexist with the virus. Pharmacological management of HIV can impact communication and swallowing.
Fetal Alcohol Syndrome/ Effects (FAS/FAE)	Diagnosis is made based on history of maternal alcohol consumption during pregnancy. Early failure to thrive secondary to hypertonia irritability, airway obstruction. Conductive hearing loss secondary to chronic middle ear effusion. Onset of speech and language is delayed commensurate with cognitive impairments.
Ototoxic Drugs	A hearing loss caused by ototoxic medications initially affects high level frequencies above 9,000 Hz. Approximately 200 prescriptions and over the counter medications have been reported as ototoxic including: aminoglycoside antibiotics, select chemotherapy medications, anesthetics, glucocorticosteroids, mood altering drugs and some vapors and solvents.
Congenital Rubella Syndrome	Occurs in 25% or more of infants born to women who acquired Rubella in the first trimester of pregnancy. Defects are rare if acquired after the 20th week of pregnancy. Disorders and conditions reported in infected fetuses include deafness, microcephaly, and retardation.

FACES – The National Craniofacial Association
 PO Box 11082 Chattanooga, TN 37401
 Email: faces@faces.cranio.org

Prevention: The etiology of communicative Disorders in children,
 Sanford E. Gerber. Prentice Hall Englewood Cliffs, New Jersey 1990

ASSESSMENT TOOLS

The following list of assessment tools were included in these guidelines based on recommendations from speech-language pathologists who provide services in early childhood settings throughout Colorado. Inclusion

on this list does not constitute an endorsement by the Colorado Department of Education (CDE). It is recommended however, that assessments selected are the most current edition and are considered to be valid and reliable for the area of concern, as well as, for the cultural/ linguistic characteristics of the child being evaluated.

QUALITATIVE SPEECH LANGUAGE INSTRUMENTS

TEST	AGE FOR ADMINISTRATION	TIME REQUIRED FOR ADMINISTRATION	PUBLISHER DESCRIPTION OF SKILLS ASSESSED
Ages and Stages Questionnaire	0 to 5 years	15 minutes per 30 item questionnaire page	Communication, gross motor, fine motor, problem solving, and personal-social
Clinical Evaluation of Language Fundamentals IV Screening (CELF)	5 to 21years	15 minutes	Language skills
Dynamic Indicators of Basic Early Literacy Skills (DIBELS) (2000)	4.0 to 10 years	10–15 minutes	Early literacy skills
Early Language Milestone Scale-2 (1993)	Birth to 3.0 years	1–10 minutes	Language skills
Fluharty Pre-School Speech and Language Screening Test-2 (2000)	3.0 to 6.11 years	10 minutes	Speech and language skills
Hawaii Early Learning Profile (HELP)	0 to 3 years	Observation / Checklist	Cognitive, Language, Gross motor, Fine motor, Social, Self Help
Kindergarten Language Screening Test-2 (1998)	3.6 to 6.11 years	5 minutes	Expressive/receptive language skills
Language Sampling, Analysis and Training (3rd Ed.) (1998)	18 months & older		Semantic, syntactic, pragmatic skills and MLU

QUALITATIVE SPEECH LANGUAGE INSTRUMENTS (CONTINUED)

TEST	AGE FOR ADMINISTRATION	TIME REQUIRED FOR ADMINISTRATION	PUBLISHER DESCRIPTION OF SKILLS ASSESSED
Joliet 3 minute Speech and Language Screen (1993)	2.5 to 4.5 years	2.5–5 minutes	Speech, voice, fluency, language, phonology , grammar, syntax
Routines Based Interview (RBI)	Up to preschool		Help professionals work with teachers and families develop functional intervention plans
Structured Photographic Expressive Language Test 3 (SPELT-P3) (2003)	4.0 to 9.11 years	5-20 minutes	Early developing morphological and syntactic structures
Transdisciplinary Play Based Assessment— Revised (1993, 2005 under revision)	Birth to 6 years	Flexible during play sessions	Assessment of child's developmental skills influencing play

QUANTITATIVE GENERAL SPEECH AND LANGUAGE TESTS

TEST	AGE FOR ADMINISTRATION	TIME REQUIRED FOR ADMINISTRATION	PUBLISHER DESCRIPTION OF SKILLS ASSESSED
Bayley Scales of Infant Development-3rd Ed. (2005)	1 to 42 months	Varies	Cognitive, language, motor, adaptive behavior, social-emotional skills
Boehm Test of Basic Concepts-3rd Ed. (2001)	3.0 to 5.11 years	20 - 30 minutes	Basic concepts
Bracken Basic Concept Scale Revised	2.6 to 7.11 years	30 minutes	Knowledge of basic concepts
Brigance Inventory of Early Development	0 to7 years years		General knowledge, Speech, Language, pre-academics, self help skills
Clinical Evaluation of Language Fundamentals-2nd Ed. (CELF)(2004)	3 to 6 years	30 - 45 minutes	Receptive and Expressive Language Skills (i.e. semantics, morphology and syntax)

QUANTITATIVE GENERAL SPEECH AND LANGUAGE TESTS (CONTINUED)

TEST	AGE FOR ADMINISTRATION	TIME REQUIRED FOR ADMINISTRATION	PUBLISHER DESCRIPTION OF SKILLS ASSESSED
Child developmental Inventory (CDI)	15 months to 6 years	30 - 50 minutes	Considers child's present development symptoms and adjustment.
Goldman Fristoe-2 (2000)	2 to 21 years	5 - 15 minutes	Test of articulation skills
Hodson Assessment of Phonological Patterns (HAPP-3)	2 to 8 years	15 - 20 minutes	Test of highly unintelligible speech
Khan Lewis Phonological Analysis 2nd Ed. (2004)	2 to 21 years	10 - 30 minutes	Test of phonological analysis
Mullen Scales of Early Learning (1993)	Birth to 5 years	15 - 60 minutes depending on age of the child	Language, motor and perceptual skills
Percentage of Consonants Correct (PCC) (1986)	2.0 years and older	5 minutes continuous language sample	Analyzes phonological system
Peabody Picture Vocabulary Test (PPVT) 3rd. Ed. (1997)	2.5 to 21 years	5 - 15 minutes	Receptive vocabulary skills
Expressive One Word Picture Vocabulary Test (EOWPVT)(2000)	2 to 18 years	10 - 15 minutes	Verbal expression and expressive vocabulary skills
Oral and Written Language Scales (OWLS)	3 years to 21 years	10 to 30 minutes per section depending on age	Assesses: Listening Comprehension, Oral Expression, and Written Expression
Preschool Language Assessment Instrument (PLAI-4) (2003)	3 to 5 years	30 minutes	Cognitive, linguistic, pragmatic, and discourse skills
Preschool Language Scale-4 (PLS) (2002)	0 to 6.11 years	20 - 45 minutes	Developmental milestones and language skills

QUANTITATIVE GENERAL SPEECH AND LANGUAGE TESTS (CONTINUED)

TEST	AGE FOR ADMINISTRATION	TIME REQUIRED FOR ADMINISTRATION	PUBLISHER DESCRIPTION OF SKILLS ASSESSED
Receptive-Expressive Emergent Language Test (REEL-3) (2003)	0 to 3 years	20 minutes	Infant language skills: interview examines receptive/expressive language skills via parent interview
Rossetti Infant Toddler Language Scale (2005)	0 to 3 years	10 - 30 minutes	Assesses preverbal and verbal areas of development; Observation and parent questionnaire
Stuttering Prediction Instrument for Young Children (SPI) (1981)	3 to 8 years	15 – 30 minutes	Assesses type and frequency of dysfluent speech to directly measure severity and predict chronicity for 3–8 year olds. Assesses preverbal and verbal areas of development; Observation and parent questionnaire
Structured Photographic Articulation Test II (SPAT-D-2) (2001)	3 to 8 years	10 - 15 minutes	Articulation/phonological skills
Test for Auditory Comprehension of Language (TACL) (1999)	3 to 9.11 years	15 - 25 minutes	Auditory comprehension, Receptive language, spoken vocabulary, grammar, syntax skills
Test of Early Language Development-3rd Ed.(TELD) (1999)	2 to 7.11 years	15 - 45 minutes	Early language development
Test of Language Development (TOLD-P3) (1997)	4 to 8.11 years	1 hour	Receptive/expressive language skills



APPENDIX M | TRANSDISCIPLINARY PLAY-BASED ASSESSMENT

SUMMARY FORM FOR TPBA: COGNITIVE DOMAIN For use by professional team members in initial and on-going assessment of the child

LEVEL OF THE CHILD'S ABILITY AS OBSERVED IN FUNCTIONAL ACTIVITY

RATING COMPARED TO OTHER CHILDREN OF SAME AGE

ABOVE AVERAGE (AA) TYPICAL (T) WATCH (W) CONCERN OR 25% (C) AGE RANGE

	1	2	3	4	5	6	7	8	9	1	2	3	4
ATTENTION	1 Inattentive, unaware of surroundings or distractible and unable to focus Department of Education, Department of Social Services (DSS, DSS, MH, Child Care) Department of Public Health and Environment, Department of Health Care Policy and Financing.	2 Selective focus of attention, only pays attention to own interests	3 Names or anticipates what to do or how to react with different toys, people, or events	4 Uses words, actions, routines, and skills immediately after a demonstration	5 Attends to relevant people, objects, and events with prompts	6 Attends to relevant people, objects, and events with self-direction	7 Demonstrates ability to accurately recognize, recall, and reconstruct routines, skills, concepts, and events after both short and long time periods	8 Is able to understand causal relationships, organize sequences toward a goal, make modifications as needed, and generalize results to new situations	9 Is able to select focus, maintain attention, and shift focus from objects to people, and person to person appropriately	1	2	3	4
MEMORY	1 Shows memory by looking longer at novel items	2 Names or anticipates what to do or how to react with different toys, people, or events	3 Uses words, actions, routines, and skills immediately after a demonstration	4 Is able to do a series of actions toward a goal and uses trial and error to make corrections	5 Is able to make a desired event occur using another person or by him/herself	6 Is able to do a series of actions toward a goal and uses trial and error to make corrections	7 Is able to do a series of actions toward a goal and uses trial and error to make corrections	8 Is able to do a series of actions toward a goal and uses trial and error to make corrections	9 Is able to do a series of actions toward a goal and uses trial and error to make corrections	1	2	3	4
PROBLEM-SOLVING	1 Recognizes changes in people, objects, or actions	2 Is able to see the relationship between and event and what caused it to occur	3 Is able to see the relationship between and event and what caused it to occur	4 Is able to make a desired event occur using another person or by him/herself	5 Is able to make a desired event occur using another person or by him/herself	6 Is able to make a desired event occur using another person or by him/herself	7 Is able to do a series of actions toward a goal and uses trial and error to make corrections	8 Is able to do a series of actions toward a goal and uses trial and error to make corrections	9 Is able to do a series of actions toward a goal and uses trial and error to make corrections	1	2	3	4

SUMMARY FORM FOR TPBA: COGNITIVE DOMAIN For use by professional team members in initial and on-going assessment of the child

LEVEL OF THE CHILD'S ABILITY AS OBSERVED IN FUNCTIONAL ACTIVITY

RATING COMPARED TO OTHER CHILDREN OF SAME AGE

ABOVE AVERAGE (AA) TYPICAL (T) WATCH (W) CONCERN OR 25% (C) AGE RANGE

	1	2	3	4	5	6	7	8	9	1	2	3	4
SOCIAL COGNITION	Lacks understanding of others' facial expressions, body language, gestures, and movements	Is able to read others' facial expressions, body language, gestures, and movements	Enjoys sensory exploration, body movement, and exploring objects repetitively	Responds to emotions expressed by others by acting to sustain positive emotions and reduce negative emotions	Anticipates others' needs, desires, and thinking based on own needs, desires, and logic	Understands motivation and desires of others and acts to respond to others' needs.							
COMPLEXITY OF PLAY	Enjoys people and investigating the environment with all the senses	Enjoys putting things together, experimenting to make things happen, and recreating familiar actions and routines	Combines various kinds of play to create actual and imagined structures, scenarios, and outcomerknown objects, people, actions, or events	Enjoys putting things together, experimenting to make things happen, and recreating familiar actions and routines	Combines various kinds of play to create actual and imagined structures, scenarios, and outcomerknown objects, people, actions, or events	Demonstrates both logical and creative thinking in all forms of play (sensory, physical, functional, construction, dramatic and games with rules). Creates own games with own rules.							
CONCEPTUAL KNOWLEDGE	Recognizes familiar people, actions, and objects	Beginning to understand simple categories. Has simple labels for people, actions, objects	Recognizes and talks about concrete similarities and differences in characteristics of people, objects, actions, and events	Recognizes and describes abstract concepts, and categories	Recognizes and describes abstract concepts, and categories	Uses concrete and abstract concepts, and categories, symbolic representations, and pre-academic concepts/situations							
EMERGING LITERACY	Listens to sounds, recognizes familiar voices and like rhythms	Likes to explore books, look at pictures, listen to the rhythms of someone reading, and make marks on paper	Listens to a simple story, turns pages, labels pictures, repeats adult's words from a book and imitates intonation. Tries to represent objects or people on paper.	Listens to longer stories, pretends to read, talks about pictures, can retell a story, and makes letter-like forms on paper	Listens to longer stories, pretends to read, talks about pictures, can retell a story, and makes letter-like forms on paper	Understands stories, uses book reading behaviors, has phonemic awareness, letter and some word recognition in meaningful contexts. Also uses drawing, write letters, or uses writing-like marks							

LEVEL OF THE CHILD'S ABILITY AS OBSERVED IN FUNCTIONAL ACTIVITY

NOTES

<p>ATTENTION</p>	<p>1 Inattentive, unaware of surroundings or distractible and unable to focus</p>	<p>2 Selective focus of attention, only pays attention to own interests</p>	<p>3 Names or anticipates what to do or how to react with different toys, people, or events</p>	<p>4 Uses words, actions, routines, and skills immediately after a demonstration</p>	<p>5 Attends to relevant people, objects, and events with prompts</p>	<p>6 Attends to relevant people, objects, and events with self-direction</p>	<p>7 Demonstrates ability to accurately recognize, recall, and reconstruct routines, skills, concepts, and events after both short and long time periods</p>	<p>8 Is able to understand causal relationships, organize sequences toward a goal, make modifications as needed, and generalize results to new situations</p>	<p>9 Is able to select focus, maintain attention, and shift focus from objects to people, and person to person appropriately</p>	
	<p>MEMORY</p>	<p>1 Shows memory by looking longer at novel items</p>	<p>2 Is able to see the relationship between and event and what caused it to occur</p>	<p>3 Is able to make a desired event occur using another person or by him/herself</p>	<p>4 Is able to do a series of actions toward a goal and uses trial and error to make corrections</p>	<p>5 Uses pictures, words, gestures, or actions to indicate recognition of previously known objects, people, actions, or events</p>	<p>6 Is able to understand causal relationships, organize sequences toward a goal, make modifications as needed, and generalize results to new situations</p>	<p>7 Is able to select focus, maintain attention, and shift focus from objects to people, and person to person appropriately</p>	<p>8 Demonstrates ability to accurately recognize, recall, and reconstruct routines, skills, concepts, and events after both short and long time periods</p>	<p>9 Is able to select focus, maintain attention, and shift focus from objects to people, and person to person appropriately</p>
	<p>PROBLEM-SOLVING</p>	<p>1 Recognizes changes in people, objects, or actions</p>	<p>2 Is able to see the relationship between and event and what caused it to occur</p>	<p>3 Is able to make a desired event occur using another person or by him/herself</p>	<p>4 Is able to do a series of actions toward a goal and uses trial and error to make corrections</p>	<p>5 Uses words, actions, routines, and skills immediately after a demonstration</p>	<p>6 Attends to relevant people, objects, and events with prompts</p>	<p>7 Attends to relevant people, objects, and events with self-direction</p>	<p>8 Demonstrates ability to accurately recognize, recall, and reconstruct routines, skills, concepts, and events after both short and long time periods</p>	<p>9 Is able to select focus, maintain attention, and shift focus from objects to people, and person to person appropriately</p>

LANGUAGE AND EMERGENT LITERACY

During the infant toddler and preschool years a child must acquire a sufficient knowledge and facility with language that it can become to tool or vehicle to gain a working knowledge of literacy. This means that children not only must learn language for the purposes of verbal expression and communicative interaction with others in their world but they also need language to access the formal educational setting. Once a child enters into an educational setting whether that is therapeutic, social, or a more formal preschool setting, listening, speaking, reading, writing and problem solving, began to form the foundations of language competence. Language and literacy though separate constructs that develop distinctly, overlap and support one another so as to create a reciprocity that mutually impacts both. Most toddlers, preschoolers and young children acquire a significant portion of their language/literacy knowledge and skills through exposure to these skills in informal naturalistic interactions with the adults in their lives, however, children at risk, identified children and children with language delays or language differences do not follow this pattern. They require explicit embedded, direct instruction, and planned or scripted interactions to intervene in their lagging acquisition of language and literacy concepts. In the years

following birth typically children rapidly acquire the rule governing each of the language domains. (Phonology, Syntax, Morphology, Semantics, Pragmatics)

Simultaneously with these remarkable achievements in language children are beginning to make sense of the world of literacy. It is evident that children with identified speech language impairments will be functioning at a disadvantage due to weak foundational speech and language skills necessary to support the acquisition of literacy concepts. It is important that as we intervene in the development of young children's speech and language development and that we be planful to include the experiences that support emergent literacy development.

The term emergent literacy is used to describe preliterate children's skills related to reading and writing before their achievement of conventional literacy. Emergent literacy, acquired in the early years is viewed as the developmental precursors to children's attainment of fluent skilled reading and writing ability. These skills housed in the foundations of oral sound and language development provides the underpinnings of children's subsequent transitions to early or beginning reading.

Laura Justice PhD identifies four main components and suggests intervention approaches to consider when planning for emergent literacy.

Four Components in Emergent Literacy

- 1.** Phonological Awareness-Awareness of the sound structure of spoken language at the level of the word, syllable, onset, rime, and phoneme utilizing skills of segmenting and blending at each level.
- 2.** Print Concepts –Knowledge of how print is organized including relationships between written language units and the metalinguistic terminology used to describe print. (ex. letter, word, write) Print concepts also includes an understanding of how books are organized the form and functions of environmental print differential features of various print genre and developmental writing skills
- 3.** Alphabet Knowledge- knowledge of the distinctive features and names of individual letters in both upper and lower case formats.
- 4.** Literate language- Use of specific syntax/ semantic and prosodic features characterizing written texts (adverbs, conjunctions, mental/

linguistic verbs, elaborated noun phrases, prosodic features) to explicitly render meaning in decontextualized text.

Four approaches or interventions linked to later literacy success.

- Adult- child shared storybook reading
- Literacy enriched play settings
- Teacher directed structures and interactions
- Phonological awareness curricula

The following forms and checklists are provide as suggestions and information to assist the early childhood SLP in creating and progress monitoring interventions to help young children achieve success in this area.

(Justice,L.,M, Pullen,P.,C, “Promising Emergent Literacy Interventions.”Topics in Early Childhood Special Education ,vol. 23:3,2004)

(Justice, Laura, . “Creating Language Rich Preschool Classroom Environments,”Teaching Exceptional Children, Vol. 37, No. 2, 2004)

DEVELOPMENT OF PHONOLOGICAL AWARENESS SKILLS

AWARENESS DOMAINS	SKILL	DESCRIPTION	SAMPLE TASK	AGE OF EMERGENCE TYPICAL
WORD AND SYLLABLE	Playing with words	Clapping and Counting the words in a sentence	Clap each time you hear a word –The cat in the hat.	3-5 years of age
	Segmenting syllables	Counting/clapping syllables in compound words	How many syllables/beats do you hear in the word cow/boy	4-5 years of age
	Blending syllables	Putting together two or more segmented syllables	What word am I saying if I say snow y?	4-5 years of age
	Deleting syllables	Identifying what remains when a syllable is deleted	Say Boxtop now say it and leave out box	5-6 years of age
	Manipulating Syllables	Changing positions of syllables in words to form different combinations	Say the word backpack now put pack at the first and back at the end. Packback	7+ years of age
RHYME	Spontaneously producing rhymes	Using rhymes without understanding the concept. mat,fat,hat,bat	Young child produces strings of rhymes but does not produces a generative rhymes when asked. What rhymes with rat?	3-4 years of age
	Identifies rhymes	Discriminates rhyme patterns	Do man and pan rhyme?	4 years of age
	Generates rhymes	Produces a rhyme partner when asked	What rhymes with tree?	5 years of age
	Judges rhymes	Matches rhymes and identifies oddity task	Which two words rhyme- hen dog pen? Which word does not rhyme-log log sock?	5.5-7 years of age
	Categorizes rhymes	Sorts and groups words based on word families, Independently recognizes word rhyme	Puts pictures that rhyme into piles The bell over the well – “Hey bell and well rhyme”	6-7 years of age
PHONEME	Blending phonemes	Identifying/stating the word formed from segmented sounds	Tell me what word I am saying – C/A/T/	6 years of age
	Segmenting phonemes	Identifying by counting or clapping the individual sounds heard in a word	Clap one tine for each sound you hear in the word man.	6 years of age
	Deleting phonemes	Stating what remains when one sound is removed	Say the word rat, now say the word without the first sound /r/	7 years of age
	Interchanging sounds in a word to create a new word	Interchanging sounds within a word	Say the word pat, now what is the word if the/ p/ is at the end and the / t/ is at the beginning of the word- tap	7+ years of age

CHECKLIST OF EARLY LANGUAGE AND LITERACY SKILLS

Adapted from Preschool Probe for Oral Language and Literacy (Pre-K POLL) developed by Laura Justice (2004)

CHILD'S NAME _____

DATE _____

This tool is designed for teams to use in monitoring a preschool child's developing knowledge of early literacy and language skills. Teams complete this form by placing a + in the box next to the description if the behavior is observed.

ORAL LANGUAGE ACHIEVEMENTS

Vocabulary/Linguistic Concepts

- Uses specific words
- Uses adjectives to make nouns more specific
- Uses new vocabulary after few exposures
- Follows directions using locational terms (up, down, under)
- Understands opposites (shallow / deep)
- Put words into categories (animals shapes)
- Poses questions to gain information
- Uses adverbs to describe (slowly / quickly)
- Uses adverbs to describe time (tomorrow, then, now)
- Uses pronouns with clear references (Tom...He)
- Retrieves and uses color concepts
- Retrieves and uses shape concepts
- Retrieves and uses number concepts
- Answers questions appropriately
- Follows simple and complex directions
- Responds to complex directions
- Responds to simple requests
- Retells main events of story in sequence after listening to it.
- Answers questions about story heard
- Asks for help / clarification

EARLY LITERACY ACHIEVEMENTS

Alphabetic/Print Knowledge

- Recites the Alphabet
- Sings the Alphabet
- Tracks letters while singing reciting
- Names several letters
- Identifies letters in signs & logos
- Identifies most/all letters in name
- Identifies uppercase as different from lower case
- Recognizes print runs left to right, top to bottom
- Recognizes print carries meaning
- Uses terms to describe print (word letter write)
- Can identify a letter from page of book
- Can identify first letter in a word
- Knows words are made up of letters
- Identifies space between words
- Enjoys playing with writing materials
- Holds pencil/crayon appropriately
- Signs creative work
- Identifies own name from an array of other words
- Prints the letters in name
- Recognizes some sound/letter correspondences

ORAL LANGUAGE ACHIEVEMENTS (CONTINUED)**Classroom Discourse/Narration**

- Varies communications depending on listener
- Follows a complex storyline in a book show or play
- Tells about activities outside of current context
- Stays on topic when telling a real life experience
- Uses language to pretend, and get others to do things.
- Makes indirect requests
- Makes direct requests
- Coordinates gesture, eye contact, and words
- Uses politeness markers (please /thank you)

Grammatical Knowledge

- Uses complete sentences
- Asks questions with accurate syntax
- Relates real life experiences to adults and peers
- Communicates regularly in sentences of four words or more
- Uses complex sentences
- Uses conjunctions to make clausal chains (so, because)
- Use conjunctions to make temporal chains (first next then)
- Uses articles (a,an,the)
- Uses verbs is and are
- Uses present progressive (is+verb+ing)
- Uses pronouns he/she/we/they
- Uses prepositions (on, in, beside, under, next to)
- Uses future tense
- Uses past tense regular and irregular
- Uses first person singular (He sits)

EARLY LITERACY ACHIEVEMENTS (CONTINUED)**Awareness of Print Functions**

- Understands that print has a specific role
- Reads simple signs and environmental print
- Identifies the front to back of book and holds the book the correct way.
- Tracks print while an adult reads a story
- Provides approximate verbatim retelling of a familiar/ favorite book
- Asks for help to read words that are unknown
- Matches voice to print
- Shows interest in print
- Tells the difference between print and pictures

Phonological Awareness

- Listens to and enjoys nursery rhymes
- Produces all or parts of familiar nursery rhymes
- Participates in large class rhyme activities
- Claps for all the words in spoken sentences
- Claps for the syllable features of multi-syllable
- Enjoys reading rhyming books
- Shows awareness of rhyming patterns in story or verse
- Recognizes when two words rhyme or they don't
- Produces made up rhymes
- Can blend together syllables to make a word.
- Can blend together the onset and rime of a word
- Identifies when two words start with the same sound
- Matches words on basis of beginning sound
- Identifies the first sound in a single-syllable word
- Knows the sounds that go with some letters

OUTCOMES

OBSERVERS AND TEAM MEMBERS

ORAL LANGUAGE GOALS AND STRATEGIES

LITERACY GOALS AND STRATEGIES

This checklist is not designed to be used as an assessment tool but rather is used to monitor the progress of young children and to direct and inform instruction. The information in this checklist is based on the work of Laura Justice; Hugh Catts and Marc Fey (Estimating the Risk of Future Reading Difficulties In Kindergarten Children) and Betty Hart and Todd Risley (Meaningful Differences in the Everyday Experience of Young American Children).

Jill Dohnalek MA CCC -SLP

Instructional Guidelines of Teaching Phonological Awareness Skills

Engage children in activities that can help them shift their attention away from the meaning of language to its form, such as reciting finger plays and nursery rhymes, singing songs and chants, viewing educational programming (e.g., *Between the Lions*), reading books that invoke sound play, and writing

Use direct instruction methods, including sequenced objectives, carefully selected training stimuli, extensive modeling, immediate feedback, positive reinforcement, and clear performance criteria

Begin with the easiest phonological awareness skill (rhyming < blending < segmentation) in which children require instruction and progress to more difficult skills, or combine skills: in either case, segmentation must be achieved

Move from cognitively less demanding exercises (matching, elimination, and judgment) to more demanding exercises (segmental representation such as clapping syllables, simple production such as blending sounds, and compound production, such as phoneme deletion, substitution, or reversal)

For blending and segmentation exercises, use words that contain continuant consonant sounds (e.g., /s/, /m/, /f/) before those with non-continuant sounds (e.g., /t/, /b/, /k/)

Initially, use words that are concrete and familiar to children (e.g., compound words and children's names) because low frequency words tend to be more difficult to manipulate

Provide temporary scaffolding by making segmental features more salient (e.g., exaggerating pronunciation of continuants and iterating non-continuant), accompanying stimuli with illustrations, using place holders such as squares and markers to facilitate sequencing, etc.

Help children connect speech-motor patterns to phoneme perception and manipulation

Synchronize phonemic awareness, letter recognition and naming, and letter-sound association instruction

Train for generalization, recognizing that improvement in one skill may not spontaneously transfer to other skills

Instructional Guidelines for Teaching Grapheme-Phoneme Correspondence and Decoding

Separate visually or phonetically similar letters (e.g., p/b, e/I) and patterns (sh/ch, ar/ir)
Introduce upper- and lower-case letters that are similar (e.g., C/c, O/o, S,s) before those that are dissimilar (e.g., A/a, D/d. G/g): otherwise, introduce lower-case letters first

Letters that are associated with a single sound (e.g., s, m, f) should be taught before those associated with multiple sounds (e.g., c, g, y)

Begin instruction with letters that are more common and that are easier to articulate

Introduce a new letter once every few days to help children quickly acquire enough knowledge to begin decoding

Teach letter-sound correspondences that can be used to build a variety of words and be sure to introduce continuant sounds (e.g., /s/, /f/) before obstruent (e.g., /t /, / /) or stop (e.g., /k/, /d/) sounds

Incorporate recently taught letters and sounds into decoding activities as soon as possible

Progress from simple VC, CV, CVC, and CVCe decoding of words that contain consonant blends (e.g., st, pl, fr) and digraphs (e.g., th, sh, ph) and vowel digraphs (e.g., ea, oa, ee) and diphthongs (e.g., oy/oi, au/aw, ou/ow)

Teach common phonograms (e.g., -at, -eat, -op) to build orthographic reading skills

Teach structural analysis as a strategy for decoding polysyllabic words (i.e., compound words, base words with inflected endings or derivational affixes, and root words with derivational affixes)

Use script adaptations, such as marking long versus short vowels and using colored or differently sized letters to indicate silent letters, to support students= decoding efforts

Combine texts that exploit word recognition instruction (e.g., predictable books, decodable books, high interest-low vocabulary leveled books) and authentic reading materials

Monitor students= progress in letter recognition, letter naming, letter-sound knowledge, and decoding proficiency through frequent (e.g., weekly) assessment

WRITTEN LANGUAGE CHECKLIST

Of the readiness skills taught and traditionally assessed in young children letter name identification or alphabet knowledge is one of the strongest predictors of later reading success. This pillar of literacy also supports and provides entry for the emergent writer. (Adams, M. J. (1998).

Beginning to read: Thinking and learning about print. Cambridge, MA: MIT Press)

The following checklist was created to direct attention towards the development of early writing skills and is based on a checklist created by Justice and Ezell 2001. This checklist can be used to measure progress in the developing child, preschool through kindergarten. Part two is an informal checklist based on information from Colorado Standards and a program entitled **Every Child A Writer**.

Directions: Observe the child in an array of literacy activities (one on one shared story book reading ,whole class writing and reading activities) In Part Two use a piece of the child’s writing to determine the motor skill and purpose of the written language samples.

CHILD’S NAME

DATE

WRITTEN LANGUAGE AWARENESS CHECKLIST PART ONE

- Orients to a book/page correctly
- Shows interest in print in classroom /home
- Recognizes that print runs left to right
- Understands that print has a different role than pictures
- Knows that words are comprised of letters
- Knows that print is comprised of words
- Can identify Title of book
- Knows that print can tell a story
- Distinguishes writing(personal scribbles) from pictures in drawings
- Recognizes common logos/signs (store names, environmental print)
- Asks for help to read signs and words in environment
- Differentiates between pictures and print on posters and signs (picture of girl on bathroom door is different from word girls.)
- Uses print vocabulary read, word, write, letter, story (circle the one/s that apply)

THE WRITTEN LANGUAGE CHECKLIST PART TWO

- Draws picture
- Scribbles purposefully and indicates print
- Produces strings of letter-like forms and calls them words
- Distinguishes between upper and lower case
- Produces strings of conventional letters but recognizes “word boundaries”
- Recognizes first letter in environmental print
- Recognizes name in print
- Writes name using correctly formed letters
- Copies/traces letters and identifies letter names
- Begins to use some conventions (Capital letters, spacing)

COMMENTS

GLOSSARY/TERMINOLOGY/DEFINITIONS

Articulation

The motor movements involved in the production of speech sounds. Traditionally, this term was used to refer to phonology and articulation. A typically developing child may have acquired the phonology of the language and yet still make some articulation errors in producing given speech sounds.

Fluency

The overall flow or rhythm of speech production. Typically, speech is produced with relatively few hesitations, few word repetitions and no-part word or sound repetitions. The flow of speech production is typically without effort or exaggerated facial expressions

Language Comprehension

(Also referred to as reception or processing) The final result and intermediate processes in the analysis and understanding of speech. It includes a series of stages beginning with speech perception, sound identification, identification and access to words, morphological and syntactic analysis, and application of world knowledge. For older children and adults, this term also applies to the understanding of written language.

Language Production

The spoken or gestural (in American Sign Language) expression of language. The abilities to produce sounds, syllables, words and other sentences that form conversation (discourse). For older children and adults, this term also applies to the understanding of written language.

Morphology

The smallest meaningful units in language including words that can stand alone and syllables

or sounds that can add meaning to words and the rules that combine these units. For example, in English, words such as boat, book and walk are morphemes (words that stand alone). English also uses a number (as do many other languages) of sounds and syllables that can be added to words that modify the meanings of words (past tense, plural, etc.). These are termed morphological markers.

Phonology

The component of language that includes consonants and vowels, sound features, syllables, syllable features (syllable stress) and rules for combining sounds and syllables to form words and phrases. For example, in English, the maximum number of consonants that can occur in a row is three, and some combinations are not allowed (such as “shv”). English words are typically composed of a stressed syllable followed by one or more unstressed syllables.

Pragmatics

The use of language in context including implicit and explicit communicative intent, nonverbal communication (intonation, communicative gestures, facial expressions), social aspects of communications and discourse (turn-taking, topic maintenance, etc.).

Semantics

The meaning of words and the meaningful role of words in phrases or sentence contexts. The definitional meanings of words, including the semantic features of the word “ball (round, can be thrown, etc.), the referent categories of words (baseball, football, soccer ball, etc.) as well as the meaningful roles (semantic relations, function or thematic roles such as Agent or Performer of Action are all part of semantics.

Syntax

The rules governing the order and relationships among words or phrases in sentences. For example, in English, sentence subjects must be included in sentences (unlike Spanish) and precede the verb. The verb must agree with the subject in number (for example, if the subject is “the boys” the verb must be “run” not “runs”).

Voice The vocal quality, pitch and intensity of speech. Typically, speech is produced with smooth and effortless production of voice (vibration of the vocal folds), that is not unintentionally whispered or hoarse.

Components of language

Phonology is the sound system of a language and the rules that govern the sound combinations.

Morphology is the system that governs the structure of words and the construction of word forms. Syntax is the system governing the order and combination of words to form sentences and the relationships among the elements within a sentence. Semantics is the system that governs the meaning of words and sentences. Pragmatics is the system that combines all of the previous language components in functional and socially appropriate communication.

ACRONYMS AND ABBREVIATIONS

ADA	Americans With Disabilities Act
ADD	Attention Deficit Disorder
ADDAG	Attention Deficit Disorder Advocacy Group
ADHD	Attention Deficit Hyper-activity Disorder
BEST	Behavior Education Support Team
BOCES	Board of Cooperative Services
BOCS	Board of Cooperative Services
CAEYC	Colorado Association for the Education of Young Children
CBLA	Colorado Basic Literacy Act
CCAP	Colorado Care Assistance Program
CCB	Community Centered Board
CCC	Colorado Children’s Campaign
CDDPC	Colorado Developmental Disabilities Planning Council
CDE	Colorado Department of Education
CEC	Council for Exceptional Children
CFFC	Colorado Foundation for Families and Children
CiCC	Colorado Interagency Coordinating Council
CISR	Community Infant Services Review
ECI	Early Childhood Initiatives

DIRECT SERVICE TO CHILDREN

- Evaluate for continued eligibility and to direct instruction
- Identify needs
- Implement IEP
- Provide direct intervention providing a continuum of service options
- Reevaluate and measure progress

INDIRECT SERVICE THAT SUPPORTS CHILDREN'S EDUCATION PROGRAMS

- Analyze and engineer environments to increase opportunities for communication
- Analyze demands and affects on child
- Attend planning teams to problem solve
- Communicate and coordinate with outside agencies regarding IEP
- Coordinate with private providers (preschool)
- Design service plans
- Design and implement transition goals and objectives
- Design and program tech or communication systems (visual supports)
- Research basis for intervention and best practice
- Monitor implementation of IEP modifications
- Plan and prepare lessons
- Plan for student transitions
- Provide parent development regarding communication needs
- Program and maintain FM systems
- Program computer activities/learnings
- Prepare and assist in implementation of home programs

INDIRECT ACTIVITIES THAT SUPPORT THE CHILD IN THE LEAST RESTRICTIVE ENVIRONMENT AND PROVIDE ACCESS TO GENERAL ENVIRONMENT

- Connect the standards to child's program and IEP
- Consult with general education providers and parent home programming
- Design and recommend adaptations to delivery of instruction
- Design and recommend modifications needed
- Observe child in additional settings
- Screen child for other communication, language-learning, and literacy concerns

ACTIVITIES THAT SUPPORT FEDERAL, STATE AND DISTRICT COMPLIANCES WITH MANDATES POLICIES AND PROCEDURES

- Attend staff meetings
- Billings/financial record keeping (monthly), request for reimbursements
- Collate, analyze and report on workload objective summaries, 2x
- Disperse, collect and report parent surveys
- Complete daily contact logs
- Parent contact logs
- Document services to other providers
- Provide parent teacher conferences
- Participate in professional development activities
- Participate on other school/district committees
- Complete entries on E-IEPs for annual reviews
- Complete entries on E-IEPs for transitions
- Prepare and complete E-IEPs for Exits
- Follow-up on attendance, document attendance and notify parents of district policies regarding non-attendance
- Write evaluation reports
- Supervise interns or new employees
- Write grants or funding requests
- Complete progress reports, mail and record 2x yearly
- Roster report
- October/December Counts
- Complete paperwork on re-referrals
- Medicaid billing

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