Learning to Talk

Listening & Learning to Talk

Learning to talk is a major accomplishment for children. Around the world, typically developing children begin to talk at the same age—with their first words emerging at about 12 months. Children follow the same path to developing communication—regardless of the language they are speaking—as they begin to put words together to create phrases and sentences. This is the means by which thoughts and ideas are put into words and words become language (Aitchison, 2010). Children intuitively know how to crack the language code, and for most, the art of learning to talk occurs seamlessly.

This “cracking of the code” involves the simultaneous process of speech and language development. Most children learn speech by imitating the sounds they hear. Babies’ speech approximations, which initially are reflexive in nature, are constantly being reinforced and refined as they interact with their parents and caregivers. This exchange and reinforcement happens in every language around the world. Speech sounds that are heard and reinforced become a part of the child’s natural repertoire (Gopnik, Meltzoff, & Kuhl, 1999). Eventually these speech sounds are tied to meaning, and language emerges. This natural repertoire continues to grow exponentially as the child grows—with the average 6- to 8-year-old learning 6 to 7 words per day and the average 8- to 12-year-old learning up to 12 new words per day (Bloom & Markson, 1998).

Language shapes thoughts, feelings, and experiences (Vygotsky, 1978). It helps us understand how we think, work, and play and influences the nature of our relationships (Denton, 2007). The desire for a social connection with parents, the need for a
greater understanding of the world, and the need for some control over their environment create the impetus for a child to develop speech and language. This motivates a child to remember and produce chunks of language that they hear from parents and caregivers.

What Happens When a Child is Deaf or Hard of Hearing (D/HH)?

A child who is D/HH can learn language through the same process as a child who does not have a hearing loss—through exposure to the language of their family. For a child who is D/HH and whose family has chosen listening and spoken language (LSL) as their outcome, there are three crucial factors that set a solid foundation for the development of spoken language competence:

1. Early Identification & Diagnosis
   - Early identification (ideally by 1 month of age) and diagnosis (by 3 months of age) of the hearing loss (JCIH, 2007).

2. Early Auditory Access
   - “Immediate and consistent auditory brain access via technology to preserve and develop neural plasticity” (Cole & Flexer, 2007).

3. Early Intervention
   - Access to trained professionals who guide and coach parents and caregivers to be the child’s primary resource for communication development.

Each of these factors alone will not provide a child who is D/HH with the skills to be a full participant in a hearing and speaking world. However, with early diagnosis of hearing loss, the use of hearing technology, and guidance from professionals with expertise in spoken language development, a child who is D/HH can begin the natural process of listening and speaking.

### LSL Strategies

As noted, access to trained professionals is key to the development of spoken language for a child who is D/HH. Professionals working to build a child’s LSL skills must become proficient in many areas of their practice. The Alexander Graham (AG) Bell Academy for Listening and Spoken Language is the worldwide certifying body for Listening and Spoken Language Specialists (LSLSs). In order to achieve the designation as either a Certified LSLS Auditory-Verbal Educator or Auditory-Verbal Therapist, a professional goes through a rigorous learning and mentoring process, which covers a 3- to 5-year time period. A professional aspiring to become a LSLS must become competent enough in their practice to pass a written examination, which covers nine domains of learning. These domains are:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hearing &amp; Hearing Technology</td>
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<tr>
<td>2 Auditory Functioning</td>
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<tr>
<td>3 Spoken Language Communication</td>
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<tr>
<td>4 Child Development</td>
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<tr>
<td>5 Parent Guidance Education and Support</td>
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<tr>
<td>6 Strategies for LSL Development</td>
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<tr>
<td>7 Education</td>
<td></td>
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<tr>
<td>8 History and Professional Issues</td>
<td></td>
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<tr>
<td>9 Emergent Literacy</td>
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</table>

Knowledge, implementation, and coaching of LSL strategies currently covers the largest percentage of the certification examination (AG Bell Academy, [http://www.agbell.org/AcademyDocument.aspx?id=541](http://www.agbell.org/AcademyDocument.aspx?id=541)).

The terms “strategy” and “technique” in auditory-verbal practice and deaf education are often used together and interchangeably, but in this chapter, distinct definitions of these terms are used.
The field of education of children who are D/HH in the United States has seen many changes over the past 150 years.

The first American attributed with using what is now referred to as LSL was otoologist Max Goldstein, who coined the term as “acoustic method” (Duncan & Rhoades, 2010). Goldstein, who was the founder of Central Institute for the Deaf, then influenced the work of other professionals who are referred to as “pioneers” of auditory-verbal practice: Helen Beebe, Ciwa Griffiths, Doreen Pollack, and Daniel Ling. These pioneers laid the foundation for LSL at a time when children were not identified early and lacked the benefits of today’s technology.

There is a lack of rigorous, evidence-based research on the effectiveness of strategies in regard to children who are D/HH. Their effectiveness has been driven by evidentiary practice and informed clinical experience and handed down through coaching, mentoring, and training professionals who work with children who are D/HH and wish to develop spoken language.

**Perspectives on LSL Strategies**

The field of education of children who are D/HH in the United States has seen many changes over the past 150 years. The roots of what is referred to today as “LSL strategies” began in 1802 with the French physician Jean Itard, who claimed that the deaf could learn to hear words (Pollack, Goldberg, & Caleffe-Schenck, 1997). Since Itard’s work in 1802, a multitude of terms have been used to describe what is now known as LSL. A few of these terms are:

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<tbody>
<tr>
<td>1</td>
<td>Acoupedics</td>
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<tr>
<td>2</td>
<td>Unisensory Approach</td>
</tr>
<tr>
<td>3</td>
<td>Acoustic Method</td>
</tr>
<tr>
<td>4</td>
<td>Articulation Method</td>
</tr>
<tr>
<td>5</td>
<td>Auditory Approach</td>
</tr>
<tr>
<td>6</td>
<td>Auditory-Oral Approach</td>
</tr>
<tr>
<td>7</td>
<td>Auditory-Verbal Approach</td>
</tr>
</tbody>
</table>

Professionals and parents use strategies, such as acoustic highlighting or auditory closure, while singing with a child, but the activity of singing is not a strategy. Sessions may involve the daily routine of getting dressed—where a parent can add their own ideas (technique)—with an emphasis on wait time and joint attention (strategies).

In the classroom, teachers may use “expansion” as a strategy to add new information to a student’s response or model correct syntax. However, targeting a student’s grammar goals during a language learning period, a follow-up language activity, or throughout the day would be related to a teaching style or technique. This particular chapter addresses the strategies that professionals use to develop LSL skills.

Professionals are aware of and utilize LSL strategies to increase the likelihood of success for the child they serve. It is important, therefore, to evaluate the effectiveness of these strategies and the basis for their relevance in our field.

- Where did the strategies begin?
- Who first used the term “strategies” in the field of deaf education?
- Why are they so important to outcomes for children?
- What are the strategies?
In order for appropriate goals and outcomes to be determined, a professional must evaluate a child’s current levels of functioning in all areas of learning. While the history of LSL is well documented, tracking the history of the use of strategies in LSL is quite a different story. Many instances in early literature refer to teaching strategies or methods of teaching (Pollack, Goldberg, & Caleffe-Schenck, 1997), but literature reviews do not lead to one comprehensive document outlining the definition, use of, or effectiveness of these strategies. There are often different names for the same strategy (e.g., auditory sandwich vs. listening sandwich; focused auditory stimulus vs. auditory bombardment), and a clear lack of which strategies have the greatest impact on the development of auditory, speech, and spoken language skills.

Table 1 was compiled by Fickenscher and Gaffney (2012) and outlines various LSL strategies along with their definitions. The strategies introduced in this chapter reflect the literature and the experience of professionals and mentors. There are other strategies used in the field of LSL development that are not presented in this chapter that may be used in practice or may be similar to the strategies identified but referred to by another term.

Planning for Success

Strategies are chosen based on the desired outcomes for a child. In order for appropriate goals and outcomes to be determined, a professional must evaluate a child’s current levels of functioning (CLF) in all areas of learning (Dickson & Caraway, 2012). CLF are determined through formal and informal assessments, observations of a child, discussion with parents and other members of a child’s Individualized Family Service Plan (IFSP) or Individualized Education Program (IEP). The areas covered in the CLF may include:

- The age a child was amplified.
- The age when early intervention services began.
- Level of auditory skill development.
- Receptive language development.
- Expressive language development.
- Cognitive development.
- Social development.
- Motor (fine and gross) development.
- Self-help (adaptive) skills.

Through continuous progress monitoring and data collection, a professional knows a child’s current levels at any given time, as well as the next targets on their learning trajectory across all domains. A link to a sample CLF form can be found in Resources for Further Learning on Strategies at the end of this chapter.

When planning a parent session, individual or group lesson, a professional must consider the long-term goal and short-term objectives and choose activities that are developmentally appropriate for the child based on CLF.

Planning Into Practice

There are multiple theories and frameworks to consider when planning a lesson or intervention session. Generally there are two approaches to consider—directive (didactic) or naturalistic. A professional may also use a combination of the two (Law, 1997).

In intervention sessions or lessons that are more directive, the professional uses a stimulus-response paradigm by initiating the interaction or stimulus to produce the intended target. A directive approach provides a controlled setting or a controlled activity that is more typical of a school or therapy setting.

In early intervention, professionals tend to use a more naturalistic approach. In an intervention session that is more naturalistic, the professional plans to use a given strategy with a naturally occurring activity. In a naturalistic approach, the professional takes advantage of the daily opportunities that occur in a child’s life by participating in or simulating the child’s daily learning environment. This approach is often used by professionals when working collaboratively with parents in a coaching relationship. When deciding between a directive or naturalistic approach, one is not exclusive of the other but rather part of a continuum to reach the intended target or outcome.

Given the significant language needs of children who are D/HH, either the directive or the naturalistic intervention approach becomes the framework for achieving the desired goal. It is the active process of
**Table 1**

**LSL Strategies & Commonly Accepted Definitions for Each Strategy**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Commonly Accepted Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditory Bombardment</td>
<td>The provision of numerous opportunities for a child to hear the target phoneme, sound, or language (Dickson, 2010).</td>
</tr>
<tr>
<td>Auditory Closure</td>
<td>A speaker begins a song, rhyme, or sentence and then stops talking in order to encourage the child to fill in a verbal response.</td>
</tr>
<tr>
<td>Acoustic Highlighting</td>
<td>Added vocal emphasis is placed on an identified target. A target can consist of important sounds, words, parts of phrases, or grammatical structures in a sentence.</td>
</tr>
<tr>
<td>Ask, “What Did You Hear?”</td>
<td>When a child gives an incorrect or inappropriate response, no response, or experiences a communication breakdown, the adult can ask, “What did you hear?” to prompt the child to give back the part of the message that was heard and attempt to repair the breakdown.</td>
</tr>
<tr>
<td>Auditory Sandwich</td>
<td>Information is presented through listening before the introduction of visual or other support information is given to a child. When visual information is needed to assist in comprehension, the information is then put back into the auditory-only presentation. The auditory sandwich is also referred to as the “listening sandwich.”</td>
</tr>
<tr>
<td>Expansion</td>
<td>An adult repeats back what the child has said and either adds something new or corrects syntax or grammatical structure.</td>
</tr>
<tr>
<td>Expectant Look</td>
<td>A nonverbal signal is given to a child to indicate a response is expected.</td>
</tr>
<tr>
<td>Joint Attention</td>
<td>The ability for two or more people to share a common focus (Woods &amp; Wetherby, 2008).</td>
</tr>
<tr>
<td>Model Language</td>
<td>An adult speaks clearly at all times, uses the correct grammar, and gives appropriate and meaningful language in context.</td>
</tr>
<tr>
<td>Motherese</td>
<td>The singsong voice that parents naturally use when speaking to very young babies. Motherese is also referred to as parentese, baby talk, or child-directed speech.</td>
</tr>
<tr>
<td>Open-Ended Questions</td>
<td>Questions are asked that require more than a yes/no or one word response (Bond &amp; Wasik, 2009).</td>
</tr>
<tr>
<td>Optimal Positioning</td>
<td>Proper position and distance between the speaker and the listener that enables the child with hearing loss to have the most optimal access to spoken language through audition.</td>
</tr>
<tr>
<td>Parallel Talk</td>
<td>An adult talks to the child about what the child does, hears, or sees at any particular moment in time.</td>
</tr>
<tr>
<td>Prompt</td>
<td>The use of a verbal, visual, or physical indicator that increases the likelihood of a correct response from a child.</td>
</tr>
<tr>
<td>Repetition</td>
<td>An indirect or informal language stimulation technique where a targeted sound, word, phrase, or sentence is said more than one time (Weybright, 1985).</td>
</tr>
<tr>
<td>Sabotage</td>
<td>Creation of an unusual or unexpected situation with familiar items or routines that is contrary to the child's expectation or understanding (Winkelkotter &amp; Srinivasan, 2012).</td>
</tr>
<tr>
<td>Self-Talk</td>
<td>An adult talks to the child about what the adult sees, does, or hears at any particular moment in time.</td>
</tr>
<tr>
<td>Take Turns</td>
<td>Adults learn to encourage a back-and-forth volley between themselves and the child.</td>
</tr>
<tr>
<td>Wait Time</td>
<td>The pause used between an adult's interaction with a child and the child's expected response that allows the child time to process the auditory information and formulate a response (Dickson, 2010).</td>
</tr>
</tbody>
</table>

*Fickenscher, S., & Gaffney, E. (2012)*
executing the session or lesson that calls for the use of specific strategies in order to meet the intended goal or outcome (see Table 2).

It is important to recognize that no one specific intervention approach is best for all young children. When selecting an intervention approach, it is important for the professional providing the intervention to consider the individual characteristic of the child, the child’s stage of language development, and the setting in which the intervention takes place. When the professional is working in the home with the parent, it is imperative that the parent’s learning style is taken into consideration, and that the intervention is tailored around what activities the parent will follow through on in between sessions. It is often useful to consider the child’s conversational skills and verbal style when determining whether to use a more directive or naturalistic intervention. Whatever the approach taken, the professional should plan for several possible responses from the child in order to be better prepared for selecting the appropriate strategy to reach the intended target.

**Selection & Application of Strategies**

LSL strategies are used across all settings that are part of a child’s daily life. Strategies are employed in meaningful ways in daily routines and activities by parents, caregivers, teachers (those in specialized as well as inclusive settings), audiologists, speech-language pathologists, and any other professional and hopefully family member with whom the child comes in contact. While strategies do not necessarily follow a developmental order, children do!

### Table 2

Examples of Directive & Naturalistic Intervention

**Directive Intervention**

**Scenario:** A young child is learning to identify and label parts of the body.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>To identify and label parts of the body, specifically the head (nose, eyes, mouth, ears).</td>
<td>During a session, the father is coached to point to and label his son’s nose, eyes, mouth, and ears. The stimulus the parent then uses is, “Jimmy, where are your eyes?” The child’s expected response is to point to and/or label his own eyes.</td>
</tr>
</tbody>
</table>

**Possible Strategies Used to Achieve This Goal**

1. Acoustic highlighting
2. Turn-taking
3. Wait time
4. Repetition
### Directive Intervention (cont.)

**Scenario:** An itinerant teacher of the deaf preteaches a tenth-grade student.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>To define a list of terms (e.g., civil disobedience, boycott, strike, peacemaker) related to peace and social justice.</td>
<td>During the lesson, the student is engaged in meaningful dialogue to increase opportunities to use these terms in the correct contexts.</td>
</tr>
</tbody>
</table>

#### Possible Strategies Used to Achieve This Goal

1. Repetition
2. Auditory closure
3. Expansion
4. Model language
5. Open-ended questions
6. Prompt

### Naturalistic Intervention

**Scenario:** A mother sings to her child as they wash various dishes.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>The child will learn the names of various eating utensils.</td>
<td>“This is the way we wash the plate, wash the plate, wash the plate. This is the way we wash the plate. Now it’s nice and clean.” <em>(Followed by spoon, cup, etc.)</em></td>
</tr>
</tbody>
</table>

#### Possible Strategies Used to Achieve This Goal

1. Positioning
2. Repetition
3. Joint attention
4. Self-talk
The use of strategies to develop a child’s auditory, speech, and language skills is not arbitrary. Particular strategies are chosen, because they are linked to the desired outcomes for a child. In order to choose appropriate strategies, the professional must be keenly aware of overall child development and in particular be knowledgeable about auditory hierarchies and typical speech development, as well as receptive and expressive language development. If a professional is not aware of what typical development looks like, they will not be aware when development is atypical. The professional who is aware of child development will, therefore, be aware of what skills need to be strengthened in an individual child and which strategies should be implemented to meet specific outcomes.

Strategies are often divided into three categories to develop:

1. Auditory Skills
2. Speech Skills
3. Language Skills

One of the primary goals of LSL is for a child to achieve conversational competency through listening. Therefore, all strategies are auditory strategies if they are presented appropriately.

In order to choose the correct LSL strategy, the professional must be able to continuously analyze the child’s strengths and needs, anticipate the child’s response, and implement the correct strategy at the correct time. Knowledge of a variety of LSL strategies is the first step in a learning trajectory for professionals and parents alike. The professional chooses to use a strategy or to proceed with the next strategy based on the child’s response or lack of response. If the use of the selected strategy is successful, the outcome has been achieved. If the strategy does not elicit the desired outcome, the professional repeats the strategy used or introduces a new strategy. Some strategies are used for the purpose of exposure (repetition, self-talk, parallel-talk), although the professional is cognizant of the response the child gives to any use of a strategy (see Figure 1).
Estabrooks, MacIver-Lux, and Rhoades (2016) suggest an approach to strategy selection that identifies six goals of every auditory-verbal session and the strategies that facilitate the achievement of these goals. The six goals identified are:

1. Create a listening environment.
2. Facilitate auditory attention.
3. Enhance auditory perception of speech.
4. Promote knowledge of language.
5. Facilitate spoken language and cognition.

**Figure 1**
Evaluating Effectiveness of Specific Strategies

A child has a receptive vocabulary of 60 words. He/she is not yet putting two words together. To encourage the use of two-word phrases, the professional and parent have selected the strategy of *modeling* carrier phrases. They select snack time to implement this strategy, because it is motivating for the child, part of the daily routine, and provides multiple opportunities for practice.

**Parent:** What would you like—raisins or goldfish?

**Child:** Goldfish.

**Parent:** You could say, “I want goldfish!”

**Child:** Goldfish.

At this point, the parent needs to decide if they can realistically expect more from their child without adding too much frustration, if they should model the language again, or choose a different strategy.
A professional must not only know which strategy to use to reach a determined goal but must have the ability and competency to model and coach parents and other professionals in the appropriate implementation of the strategy. The proper use of LSL strategies requires the professional to be diagnostic in nature. Each and every response a child makes tells the professional something and leads to the decision of which strategy to employ next. Any given strategy may be specific to an activity that targets a goal or part of a classroom lesson, intervention session, or the child’s daily living activities. They can be used multiple times within a lesson or session and in different ways.

In addition to LSL strategies, scaffolding may be needed to ensure a child meets with success. Scaffolding is support provided in a creative and adaptive manner that enables the child to learn the skills at the most independent level possible. Each child has a skill level that ranges from what they are able to do independently and spontaneously to what they are able to do with maximal assistance. Scaffolding allows the professional to work at a level that maximizes the child’s learning potential at any given moment. This range of ability or “Zone of Proximal Development” (Vygotsky, 1978) represents a hierarchy of what tasks or skills a child is able to complete with the highest level of adult support to what they can do independently. As each child builds upon their established LSL skills, they are able to increase the complexity of their communicative competency.

Evaluating the effectiveness of specific strategies is often an in-the-moment process and depends upon a given response by the child. Different children respond in different ways to the use of the same strategy.

**Conclusion**

LSL strategies are integral to a child’s ability to meet their full potential and master communicative competency. Professionals working with families and children who are D/HH have an obligation, therefore, to become proficient in their knowledge and implementation of these strategies. A professional must be aware of which strategies to choose and how to coach others in the use of strategies, while striving to use a variety of strategies throughout every interaction with a child who is D/HH. Brains are hardwired to learn language through listening (Cole & Flexer, 2007). Today this is possible for almost every child with hearing loss, regardless of the severity of that hearing loss. It is the strategies we employ that strengthen auditory and spoken language skills for a child who is D/HH.

Developing competence using LSL strategies is a process that takes time. As each strategy is understood and applied appropriately with children in a classroom or a child in therapy, professionals who are learning to use LSL strategies for the first time should use reflective practice to assess when the strategy is achieving the desired outcome. Professionals should also reflect on why or when the strategy used did not have the intended outcome and what the potential reasons may be that the intended outcome was not achieved.

The ability of a professional to identify skill areas that are not part of their working repertoire serves as the catalyst for growth along the continuum of novice to expert. The knowledge, application, and coaching of strategies may be an area of needed growth for many professionals. The ability to coach another in the strategies should be a goal of every professional. This involves the analysis of the skills of another and the ability to take the perspective of the person who may be less competent, and assumes communication skills that will allow for the transfer of knowledge from one individual to another. It should be expected that at multiple times throughout one’s career, professionals will identify areas in which they are consciously incompetent and work toward a level of competence (Howell, 1982). Professional competency occurs when a professional has the ability to describe what each strategy is, how it is used, why it is used, and exhibits the ability to coach a parent or another professional to effectively use the strategies.
Resources for Further Learning on Strategies

Hearing First, https://hearingfirst.org/learning-growing-lsl/lsl-strategies-techniques

References
