Child and Teen Education and Counseling

Kris English

Introduction

Growing up well with hearing loss is easier said than done. It requires an additional level of self-acceptance, addressing the definition of “me as different” and the reality that one’s hearing problem is not going away. This kind of acceptance is more achievable when children and teens can talk to supportive adults, especially when they do most of the talking. The process of “talking out one’s problems” has a therapeutic effect on the perception of the problem and the ability to address it. Until these insights are obtained, new information will not be processed. This paper describes how audiologists can determine if their pediatric patients are ready to learn and ready to change, and how audiologists can expand their roles as educators and counselors.

Ready to Learn

Audiologists usually lack a formal background in patient education, which is surprising when we think about the amount of information we share with patients on any given day. Hence, we likely apply the process by which we have been taught:

1. The audiologist talks.
2. The child listens.
3. Learning occurs.

The underlying assumption to this process is that when an audiologist talks, the child will understand and remember the words, and will translate them into meaningful concepts. Contrary to our otherwise scientific and evidence-based practices, this approach can almost be described as a leap of faith, since the child we are talking to does, after all, have a hearing loss, and might not perfectly hear us or understand our words.

While children do understand some (and occasionally most) things that audiologists say, as an educational process “learning-by-listening” has been shown to yield unimpressive results. Research shows that learners only listen during a “teaching moment” they will generally forget most of what was said, and what is remembered usually will not be generalized to new situations (National Research Council 2000). Medina (2008) describes a 125 year-old experiment that continues to be replicated, called the “Ebbinghaus forgetting curve.” In 1885, Hermann Ebbinghaus demonstrated that people tend to forget new information at an astonishing rate. Learners who listen to new information forget about 70% of that information within 24 hours; by the end of the week, 80% of the information is forgotten. Within a month, the listener has forgotten about 90% of the new content.

Some Easy Math: Listening + Activity = More Learning

Merely listening, then, is generally inefficient, especially in this era when children are expected to learn more, and learn it sooner. When audiologists think about how to convey health and technology information to children and teens, we can add what we know about the brain to our instruction: that is, listening plus another activity will result in more learning. Why? Because the additional activity stimulates more neural activity, establishes more synaptic connections, and provides the

Address correspondence to: Kris English, PhD, Professor of Audiology, The University of Akron, 181 Polsky, Akron, OH 44313, Email: ke3@uakron.edu.
brain more data to retrieve when recalling the relevant information.

Examples of additional “active learning” activities include: solving personally relevant problems, discussions, role-playing, conducting research and interviews, “thinking out loud” activities, building, creating, writing, and “real world” activities. The last example may be the most effective teaching strategy of all, but it is not often found in American classrooms. For instance, Stigler and Hiebert (2009) describe how math is typically taught in the US: a teacher demonstrates solving a math concept (e.g., finding the common denominator in fractions) on an overhead projector or SmartBoard, and then requires students to complete very similar problems on worksheets. At a certain point, the teacher moves on to another abstract concept. In Japan, however, once a class masters a math concept, a teacher will follow up with a “real world” activity. For example, the class may walk through the community to examine a bridge, and be asked to explain mathematically why the bridge doesn’t fall down. The practical application of an abstraction helps students remember and use concepts months and years after first learning it.

An example in audiology might involve teaching children about FM technology. Our first inclination may be to rely on “old school” instruction and talk while children listen: we define signal, noise, and signal-to-noise ratio, and perhaps even provide a handout with some drawings. The child as passive listener may understand some of these concepts but will not likely remember them, and thus remains disengaged when we discuss the benefits of FM systems. An active learning approach could pose the following question: “How do FM systems work?” and then provide structure for the child or teen to answer the question with experiments and exploration. Some structure is needed because, while children and teens are usually aware that noise, distance and direction complicate their ability to hear with hearing aids only, they often lack the vocabulary to explain why.

What might experiment and exploration look like? One possibility: children and teens can collect their own data while participating in a Functional Listening Evaluation (Johnson, Benson and Seaton 1997) in four conditions: without hearing aids, with hearing aids, with an FM system only, and with HA+FM. The data speak for themselves: the answer to the question, “How do FM systems work?” is embedded in the scores obtained in a variety of classroom conditions (quiet versus noise; near versus far).

Will data motivate change? In a word, no. It has been proven time and again that knowledge does not change behavior (Heath and Heath 2010). If we hope to effect change, we also need to consider the psychological states briefly discussed in the next section.

Learners as Psychological Beings

To enhance our educational/change efforts, we can apply concepts from cognitive psychology commonly found in patient education and health literacy fields: motivation and self-efficacy. While motivation is a familiar concept, self-efficacy requires some discussion.

Self Efficacy

Self-efficacy is a belief about one’s own capabilities to accomplish a specific task or activity (Bandura 1977; Wigfield and Wagner 2007). Not surprisingly, children are more likely to engage and persist in an activity when they believe they are able to succeed at the activity (Urban and Turner 2007).

It is important to add that this belief is based on evidence (the experiment-and-exploration approach mentioned above). A learner needs to experience a success and then understand that the success was based on personal attributes that one can control. Please note: acknowledging personal attributes a child can control is not the same thing as bestowing lavish praise with the intention of boosting self-esteem. Dweck (1999, 2006) describes her classic studies from the 1960s that demonstrate the effects of these two approaches. Following is an example of these studies:

Two groups of students were given a problem to solve that was already in their skill set. The first group was told, “You got the right answer! You must be very smart” (praising a characteristic – intelligence – one cannot control). The second group was told, “You got the right answer! You must have tried very hard” (acknowledging a personal attribute – effort – one can control). The students were then given a choice: to attempt a problem quite similar to the first one, or attempt a more challenging problem that would result in learning something new. The first group usually chose the similar, easier problem, while the second group usually decided to try the harder problem.

Why? It seems children in the first group worried about preserving the perception of being smart, and did not want to risk that perception by failing at even an insignificant task. Their focus was on other people’s impression of them, rather than on learning. However, the children in the second group were not worried about
others’ perceptions, and were more interested in challenging themselves further. As Dweck (1999) put it, “When we focus students on their potential to learn and give them the message that effort is the key to learning, we give them responsibility for and control over their achievement – and over their self-esteem” (p. 5).

We know that pre-teens and teens in general struggle with self-esteem (Robins, Trzesniewski, Tracy, Gosling and Potter 2002), and having a hearing loss likely adds an additional challenge. Interestingly, the degree of hearing loss does not seem to make much difference. Bess, Dodd-Murphy, and Parker (1998) asked more than 1200 children with mild hearing loss to complete a self-report, and found that these children exhibited significantly more difficulties in a self-esteem subsection than children without hearing loss. The researchers concluded that even mild loss is associated with a negative self-concept.

**Learning via “Small Wins”**

Given this challenge to self-esteem across the lifespan, we can understand that when children are faced with learning new information, they will seek to protect their psyches by asking themselves two questions: can I learn this information (self-efficacy)? And, why do I have to learn this information (motivation)? (Wigfield and Wagner 2007).

The first question is easy enough to answer: yes, one can learn age-appropriate information when it is presented in context, with examples and practice. However, the learner is likely to be skeptical; without evidence of success, the learner has no reason to accept our confidence. We can use the concept of “small wins” (Weick 1984) or, in more familiar parlance, “baby steps,” to guide a learner through a set of learning experiences designed to provide that evidence.

Small wins are described as controlled opportunities that produce visible results. By itself, a small win may seem unimportant, but a series of “wins” at small but meaningful tasks provide a compelling answer to the question, “Can I learn this information?”

Expanding our initial question from “How do FM systems work?” to a more personally relevant question, “How does an FM system help me?” we can guide children through these small wins:

1. Encourage a child or teen to develop her own tool to measure effectiveness (for example, using a 1-5 scale in 3 conditions), and then suggest she ask a trusted adult to review the tool for content validity (Small Win: Another person supports my design, and has helped me improve it.)
2. In addition to collecting data on herself, she might ask a peer to do the same, and then compare results: if there are differences, how can I account for them? (Small Win: I am learning to think like a scientist.)
3. The learner may then agree to use an FM system regularly in one condition and also measure other effects, including impact on grades (objective data), comfort levels (subjective data), and listening effort (which no one has figured out how to measure!) (Small Win: I have information only I can collect.)

The second psyche-protecting question was “Why do I have to learn this information?” The answer is based in patient-centered audiologic care: “Because it’s all about you! You have challenges, you have questions…. Tell me what you need to know, and I will follow your lead” (Weiner 2002; Farr 2010). This child-centered response is essential, since learning from an “external imposition” does not last (Medina 2008).

Sometimes children are very forthcoming about their challenges. The following comments seem like open invitations to a conversation and would be worth exploring:

“Am I deaf, or what?”
“How do you know my hearing is the same every year?”
“I’m the only one in school who has trouble with cell phones.”
“I have to go to some boring meeting for some boring reason – PIE, IEP, whatever.”

Of course, for a variety of reasons, sometimes children and teens do not readily disclose their worries and doubts to their audiologist. In those situations, we can at least extend an invitation to let them know we are interested in helping them. A poster with a “menu” of topics can be mounted in the waiting room, with supplementary handouts to let children and teens know we have information about technology and strategies to improve listening in school, after-school jobs and sports, with friends, accessing music and telecommunications, for example. If children and teens don’t know we are ready and eager to help, they are not likely to ask for help.

**Four Steps in Patient Education**

At this point, we are ready to summarize the four steps described in classic patient education (Suter and Suter 2008):
1. Find out what the child already knows. This step provides us an opportunity to correct misunderstandings and fill in gaps.

2. Share new information that relates directly to pre-existing knowledge. When new information is connected to known information, the learner is likely to remember it longer, and apply it to new situations.

3. Provide something to DO with that information. As mentioned earlier, active learning results in better learning. Although not a new idea (e.g., see Dewey 1938), recent neurological evidence now supports the use of active learning. Compared to listening only, “learning by doing” results in more neural activity and the creation of more synaptic connections, which allow the brain to function more efficiently (Zull 2002).

4. Repeat, revisit, review. Learning requires cumulative practice and active recall; these activities consolidate long-term memory.

Do you remember the Ebbinghaus Forgetting Curve? Contemporary research indicates that the natural forgetting effects can be offset with focused review spaced out over a specific period of time (Wolf 2008). Figure 1 depicts review processes occurring on Days 2, 7 and 30, for 10 minutes, 5 minutes, and 2-4 minutes respectively. These brief reviews over time turn the “90% Forgetting Rate” into a “90% Learning Rate (see Figure 1).

Knowing that review improves learning, how can we apply it? At the minimum, we can ask the child or teen to follow this review schedule with a family member or friend or teacher – or stay in touch with us by email and “check in” with a brief report – or provide current information about relevant Smart Phone apps.

Ready to Change

Unfortunately, our teaching efforts are in vain if children are emotionally distraught – because, as Medina (2008) puts it, “stressed brains don’t learn the same way” (p. 135). We return to our understanding of the brain to analyze stress and learning.

It has been well established that the frontal cortex of the brain is the seat of reasoning, executive function, problem-solving, maintaining attention. When we attempt to explain information (e.g., how to interpret an audiogram or how to use hearing assistance technology), we are effectively “talking” to the frontal cortex. However, every stimulus is first analyzed by the amygdala, and when something upsetting happens, the amygdala interprets it as a threat, and sends a signal to the adrenal glands (Damasio 2000). These glands immediately release adrenaline into the bloodstream, which increases heart and respiration rates and other physiological “survival” responses, commonly known as “fight or flight” reactions. While in this state, the amygdala

![Figure 1. The Forgetting and Remembering Curve. The lower ‘Forgetting Curve’ (Medina 2008, from Ebbinghaus) suggests that some 90% of newly-presented material is lost by 30 days; contemporary research indicates that these natural forgetting effects can be offset with focused review spaced out over a specific period of time (Wolf 2008). The upper line shows the effects of review processes occurring on Days 2, 7 and 30, for 10 minutes, 5 minutes, and 2-4 minutes respectively. Reprinted with permission.](image-url)
literally blocks access to the frontal cortex, preventing higher levels of processing to occur.

We’ve all experienced pain, loss, and sometimes tragedy in our lives, and can recall the feeling of being overwhelmed, “shutting down,” and in no condition to learn and remember new information. Before we attempt to teach children and teens, we need to check to see if they are ready to learn, or needing to talk about what else is on their minds.

It’s been shown that talking about one’s problems helps reduce stress and clear one’s mind, improving the ability to solve problems (Vaughn 1998). But how can one have that kind of conversation? After all, audiologists must honor their scope of practice and limit themselves to the role of non-professional counselor (English 2002; Clark and English 2004). Conveniently, most materials designed to teach children about hearing loss can also be used as a springboard to counseling conversations about their reactions to living with hearing loss. Following is a description of two easily acquired materials.

“Knowledge is Power”-Curriculum

One of the most accessible materials available to the audiologist is a curriculum called “Knowledge is Power” (KIP; Martilla and Mills 2009). This program provides lessons designed to help children understand their hearing loss, hearing aids, assistive devices, and more. Lessons are written in both an introductory and advanced level, so that the audiologist can present the same material in more depth as the child gets older. For very little investment, the audiologist can count on this material for years of use.

The KIP curriculum provides materials to help us combine instruction and counseling into the same activities. A section called “Our Stories” has contributions from children and young adults with hearing loss, in their own words. Children can be encouraged to read “Our Stories,” and either write their own stories, or at least discuss the stories in KIP: are there similarities to their own experiences? Are there lessons to learn? What would they want to ask the author? What would they want to add to the stories?

A section titled “Coping, Part 1” asks children to consider “big questions” such as “How do you feel about your hearing loss? Does your family accept your hearing loss? Whom do you talk to when you have a problem?” Topics about responsibility for communication problems and friendships are offered for consideration.

A follow-up section called “Coping, Part 2” provides a helpful introduction about how audiologists might help children recognize that negative beliefs (“I should not have to wear this hearing aid”) can create barriers for themselves, affecting how they feel and ultimately how they act. A set of activities is provided to help children identify how they do think about circumstances, and then how they can change those thoughts.

“Self-Assessment of Communication – Adolescents”

Regrettably, there is a paucity of materials available for the audiologist who wants to continue teaching and counseling children as they reach their teen years. However, the “Self-Assessment of Communication – Adolescents” (SAC-A; Elkayam and English 2003; Wright, K., English, K., & Elkayam, J. (2010). Reliability of the Self-Assessment of Communication - Adolescent, Journal of Educational Audiology, 16, 30-36) has been expressly designed for this purpose. It was modified from an instrument originally designed for adults. The original SAC (Schow and Nerbonde 1982) is a popular self-assessment tool because it is short and addresses multiple domains. The “springboard” metaphor was mentioned earlier, because after completing this kind of self-assessment, the subsequent conversation often leads to first-time opportunities to discuss specific challenges associated with hearing loss.

The SAC-A has 12 questions about how the teen with hearing loss functions, how the teen feels about the hearing loss, and what others might have mentioned about the hearing loss. For example, are there problems communicating with one person? A small group? Listening to entertainment? Does the teen feel left out or upset when it’s hard to hear, or does it seem people often get the wrong impression because of the hearing loss?

The audiologist can learn if the teen is experiencing problems, understands the problems, or needs help solving them. Is the problem something technology can improve? Is the teen aware of the technology or relevant communication repair strategy? Is the teen aware of a solution but unwilling to make a change at this time? And does the teen feel alone in facing these problems? Is help needed in making and keeping friends? Is the situation troubling to the point of depression, and is a referral in order? As with the discussion items in the KIP, the SAC-A can help teens “tell their story” and help us help them.

The SAC can be found on Phonak’s Guide to Access (GAP) CD and also can be downloaded from this website:

**Role of Audiologist as Educator and Counselor**

Pediatric audiologists wear many hats, the most recognizable and most time-consuming ones being “diagnostician” and “amplification manager.” With schedules that get busier every week, is there time to add the roles of educator and counselor? At this point in time, we have no answers to that question, but we can consider the following suggestions.

In the spirit of changing via “small wins,” we might start off with a self-analysis: when a teaching/counseling moment presents itself, do we put the child or teen in a passive listening role? (“What am I going to cover/talk about?”) If so, can we modify our approach to help the learner be more engaged, more active? (“What is the child going to do?”) What would that look like? Start with an N of 1. How would we document that change and measure its effectiveness? What would be the next step to take?

Another “small win” might include deciding not to wait for those spontaneous teaching and counseling moments to occur randomly, and start planning more consistent educational and counseling programs within one’s setting. Add another “small win” by strengthening partnerships with local educational audiologists, teachers, counselors and social workers to share work and expertise.

Patient education and counseling are within our scope of practice, and must be updated with contemporary analyses. Research is needed to help audiologists apply generalized principles to our unique practices, to be more effective and make a positive difference in the lives of children, teens and their families.

**References**


