Questioning our assumptions about language intervention

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A recent Clinical Forum issue of Language, Speech, and Hearing Services in Schools entitled “Reflections on Improving Clinical Practice” (April, 2014) deals with the assertion that intervention for children and adolescents with language and learning disorders could be improved. In the lead article in this forum, “Improving clinical practices for children with language and learning disorders”, Alan Kamhi asks speech language pathologists to consider the assumptions they make in their clinical practice and how these assumptions influence their intervention decisions. Kamhi highlights several common assumptions, and then reviews research from general learning principles which call them into question. Some of his article pertains to syntactic and narrative intervention which is relevant for clinicians working with school-aged children. Below, I have summarized Kamhi’s points that relate to the assumptions we make when intervening with young children.

Assumption #1: Children with language problems have difficulty with generalization

We have all been faced with the challenge of helping children take what they learn in the clinic and “generalize” it to other environments. However, Kamhi argues that this really isn’t a problem with generalization, but instead, it is actually a component of learning.

In psychology, the distinction is drawn between:

- **performance**: the short-term context-specific occurrence of a behaviour, and
- **learning**: the long-term context-independent occurrence of a behaviour

(Kamhi, 2014)

In our field, we tend to think that a child has learned a new skill once he can exhibit it during a therapy session, and failure to use it outside of that context demonstrates
difficulty with generalization. But Kamhi argues that really what we have observed during a session is performance, and what needs to happen next is learning.

As Kamhi explains,

“A generalization problem implies that there is some deficiency in the transfer mechanism or in the ability to transfer knowledge from one domain to another or from one context to another” (p. 93).

As opposed to a problem with their transfer mechanism, Kamhi suggests that children with language and learning problems have difficulty acquiring broad-based rules and modifying them once acquired. Therefore, our intervention needs to facilitate the acquisition of broad-based language rules. Applying language rules to new contexts involves learning, not generalizing.

Assumption #2: Intervention needs to be provided via massed practice in a constant, predictable manner

Which of the following two intervention scenarios do you feel would lead to better learning outcomes for a young child with a language disorder?

1. Intervention sessions delivered once per week for eight consecutive weeks in a consistent location

2. Eight sessions spaced out over a period of several months which occur in different locations (home, school, clinic, etc)

Looking at the service delivery models within which many of us work, scenario #1 above seems to be quite prevalent. Besides thinking that this massed, predictable practice may lead to better outcomes, there are a variety of logistical reasons why scenario #1 is quite common.

However, according to Kamhi, research shows that long-term learning is best achieved when the conditions of instruction and practice are varied, and when practice is distributed with long intervals between the learning episodes. When therapy is constant and predictable, the learning can become contextualized, which means that the child can perform the behaviour in that particular context but not in other contexts. Some researchers (i.e. Paul & Norbury, 2011) have suggested that the intervention environment be varied, with sessions alternating between a couple of locations. And when longer intervals occur between intervention sessions, “spacing effects” have been observed, both in children’s initial performance and in their retention of new skills (Kamhi, 2014).
Assumption #3: Evaluative feedback is an important component of therapy

Feedback that is evaluative provides a judgement about the child’s communicative attempt, such as “I like the way you said....” or “That wasn’t quite right, let’s try again” (Kamhi, 2014). Kamhi asks clinicians to consider reducing the frequency of evaluative feedback as recent research has shown that this reduction may promote long-term learning. This may be because evaluative feedback disrupts the conversation and interaction. Instead, Kamhi proposes increasing feedback that acknowledges and expands on the child’s communicative attempt and highlights the targeted linguistic goal via added stress to that particular part of the sentence (in other words, Interpreting, Expanding, and using the 4 S’s: Say less, Stress, Go Slow & Show).

Assumption #4: More therapy is better than less therapy

A hot topic in our field is intervention intensity, as researchers continue to examine how much intervention is ideal for which cohorts of children. We don’t yet know the precise “dose” of intervention which promotes optimal outcomes for different groups of children. Despite this, it is generally assumed that more intervention is better than less intervention when it comes to children’s outcomes.

Kamhi points out, however, that this belief is not aligned with research that has demonstrated learning plateaus and threshold effects in language and literacy learning. And in some studies (i.e. McGinty, Breit-Smith, Fan, Justice & Kaderavek, 2011), a higher dose of intervention actually resulted in less favourable outcomes under some circumstances (Kamhi, 2014). Kamhi suggests that the relationship between intensity and learning outcomes may not be consistent across “individual children, different areas of development, and different points in the learning trajectory” (p.95).

Assumption #5: Telegraphic models facilitate language learning

Many of us were trained to simplify our language models for children at the early stages of language production so that they include only the content words and omit some of the grammatical markers (i.e. “want ball”, “Daddy up”). These types of utterances are considered “telegraphic”. The thinking behind this type of language modeling is that it facilitates children’s understanding and imitation/production of early word combinations due to the reduced input.

But Kamhi, like Fey (2008) points out that the syntactic, morphologic and prosodic cues found in complete grammatical models provide children with important information such as linguistic boundaries, grammatical categories of words, and possible word meanings. For example, the patterns of weak and strong syllables in sentences give children cues about
whether a word is a noun or a verb. When strong syllables with adjacent weak syllables occur in the middle of a sentence, this indicates that it is a main verb (Kamhi, 2014). Therefore, Kamhi recommends that “clinicians should always provide well-formed language models” (p. 96).

For further information about the disadvantages of using telegraphic language models, see our article “Telegraphic Speech: Should we or shouldn't we? A summary of available research”.

Final Thoughts...

When thinking about the assumptions above and how to improve our intervention with young children, it seems that involving a child’s caregivers in his or her intervention and helping them become responsive communicative partners fits with Kamhi’s suggestions.

For example:

- **varied and distributed practice of broad-based rules is best accomplished with caregivers’ help** - Kamhi reminds us that children need to learn how to apply and modify linguistic rules in a variety of situations over a spaced period of time. We cannot possibly hope to achieve that type of exposure in our clinics. It is only with parents’ and teachers’ help that this can be achieved.

- **caregivers can learn to provide responsive, grammatical early language input** - Kamhi urges clinicians to respond to children’s message as opposed to evaluating them, and to do so in a grammatically-correct way that emphasizes our language targets. If this type of input is facilitative during our therapy, then it’s equally important to help parents and teachers become responsive communication partners for children during all of their everyday interactions.

By working together with families and educators, we can provide the type of distributed, varied learning that Kamhi suggests, and promote regular responsive, fine-tuned language input from a variety of sources.

Sometimes the way we deliver our intervention is influenced by the system within which we work, the way we were taught in our graduate programs, or our own personal beliefs and clinical experience. But Kamhi urges us to examine the way we think about and deliver our intervention. Some of our decisions may be based on assumptions which are not necessarily supported by general learning principles. This sentiment is summarized in LaVae Hoffman’s comments in her prologue to the LSHSS clinical forum:

“Providing best practices and high-quality clinical services...necessitates clinicians holding themselves to high standards that include continually examining our own actions and attitudes. It requires that we upgrade our moment-by-moment clinical choices by

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incorporating new insights from emerging scientific evidence and that we be willing to let go of beliefs and familiar actions that are no longer sufficient to meet the demands of current practices in schools." (Hoffman, 2014, p. 91).

If we continue to question why and how we do what we do, we will be in a position to deliver family-centred intervention which results in the best possible outcomes for the children on our caseloads.

References


