Receptive Language: To Treat or Not to Treat? That is the Question…

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The development of receptive language is a very complex process. Before children begin to produce words, they learn to recognize the human voice (Bruner, 1975). They then begin to segment the sounds they hear and associate meaning to these sounds (Bruner, 1975). Hearing the sounds of language in everyday interactions and gaining meaning from visual information within the child's environment (e.g. when mom puts her shoes on, that means we are going somewhere) provides the foundation of language comprehension (Leaf & McEachin, 1999).

The development of receptive language skills is often impaired in our clients. Receptive language impairment (RLI) is characterized by difficulties with understanding spoken and written language (Broomfield & Dodd, 2004). RLI rarely occurs in isolation; rather, the impairment tends to occur in conjunction with expressive language difficulties (Johnson, Beitchman, Young, Escobar, Atkinson, Wilson, Brownlie, Douglas, Taback, Lam, & Wang, 1999). Research consistently shows that there is a poor long-term prognosis for children with RLI, frequently demonstrating challenges in behaviour, language, social and literacy social development (Johnson et al., 1999; Catts, Fey, Tomblin & Zhang, 2002; Yoder & Warren, 1998). With appropriate intervention, outcomes improve for this population of children.

Assessing Receptive Language Skills

As SLPs, we are expected to identify and describe a child's RLI during an assessment. However, it is challenging to determine the exact breakdown of the impairment when it comes to language comprehension (Miller & Paul, 1995). For example, some researchers hypothesize RLI is due to difficulties with auditory perception, which is the identification and organization of sensory information through hearing (Leonard, 1998). Other researchers hypothesize that RLI is due to auditory processing difficulties, which refers to the ability to process meaning from what is heard (Osgood, 1962). In addition, research has shown that parents often claim that children understand more than they actually do (Chapman, 1987). Paul (2007) states that this is due to young children using comprehension strategies such as nonverbal cues in the environment to make it appear that they understand. For example, a child may appear to comprehend his parent's request but may actually be imitating his parent's actions or perhaps looking at what the parent looks at and then acting on it (Chapman, 1978).

It's important to accurately identify impairments in language abilities so appropriate intervention goals can be set to meet the individual needs of the child. Yet, few standardized measures identify impairments in comprehension of young children (Skarakis-Doyle & Lee, 2008; Paul, 2007). One reported reliable measure of comprehension, according to Bishop (1997), is to assess comprehension of narratives, but this measure is rarely used for young children. This is likely due to the fact that this type of task is not developmentally appropriate for young children. As a result, assessing a young child's comprehension ability is typically done through observing a child's response to requested tasks. These tasks consist of a child demonstrating their ability to comprehend the spoken language of others by responding to

instructions non-verbally (i.e. Parent says, “clap your hands” and the child follows through by clapping their hands). Another example could include asking a child to identify a familiar object from a choice of 3-4 objects (i.e. “show me the pig”). If the child selects the pig, despite having several objects available to choose from, it could be assumed the child comprehended the task. Tasks such as these are not always reliable as children can guess which can lead to overestimating a child’s comprehension abilities (Miller & Paul, 1995). The lack of clarity regarding the best model to explain RLI’s makes it challenging for SLPs to identify and describe difficulties in this domain.

Is Direct Receptive Language Intervention Evidence-Based Practice?

One approach to intervention with children who have RLI is to focus directly on improving receptive language. If we want to know whether this practice is effective, we need more information. When making clinical decisions regarding intervention, we need to consider whether it is evidence-based practice. According to the American Speech-Language Hearing Association (ASHA, 2006), we can determine if an intervention meets evidence-based practice by:

> **Step 1) Framing a clinical question:** This is the formulation of a clinical question related to a specific topic.
>
> **Step 2) Finding and assessing the evidence critically:** The first step in the process of answering the clinical question is to complete a literature review. This includes assessing the quality of the research to evaluate whether a meaningful answer to the question can be answered.
>
> **Step 3) Making the clinical decision:** This is done by using our own clinical experience and expertise with the intervention and considering the child’s communication status and the family’s values.

For the remainder of this article, we will follow ASHA’s outlined steps for determining evidence-based practice for receptive language intervention.

Step 1) Framing a clinical question: The formulation of a clinical question related to intervention of RLI’s

The search concerning receptive language intervention began with the formulation of the following question:

Do preschoolers with RLI’s demonstrate gains following direct receptive language intervention?

Now that we have a clinical question, we need to determine whether evidence exists to support our practice.

Step 2) Finding the evidence:

Early into the literature review process, it became apparent that there is a large gap in the literature on receptive language in general. This finding was also noted by many researchers in this area (Gillum and Camarata, 2004; Law, Garrett, & Nye, 2004; Clarke and Collins, 2007). The literature almost exclusively focusses on expressive language development and intervention (Law, Garrett & Nye, 2004).

A common theme in the literature is the rationale that intervention should target receptive language goals prior to targeting expressive language goals (Lovaas, 1977, 2003; Leaf & McEachin, 1999). For example, setting explicit and specific goals to increase a child’s receptive vocabulary knowledge, prior to setting goals for improving expressive vocabulary. This rationale comes from the fact that receptive language develops first in typically developing children (Lovaas, 1977).

Despite the theme in the literature that clinicians should target receptive skills before expressive, there is

limited evidence to support this rationale. Rather, studies have consistently shown that expressive language intervention is more likely than receptive language intervention to result in improvements in both language domains (Camarata, Nelson, Gillum, Camarata, 2009; Petursdottir & Carr, 2011; Connell & McReynolds, 1981; Bao, Sweatt, Lechago & Anto, 2017).

Specific findings in the literature include:

- **Gains in receptive language abilities are frequently observed following expressive language intervention only** (Petursdottir & Carr, 2011)
    - the researchers went as far to say that treating expressive language first makes receptive language intervention unnecessary (Petursdottir & Carr, 2011). This finding supports the contention that intervention could be completed over a shorter period by not having to directly treat receptive language (Petursdottir & Carr, 2011; Connell and McReynolds 1981).
- **Receptive language can be promoted incidentally during direct expressive language intervention**
    - A study by Camarata, Nelson, Gillum, Camarata (2009) found that deficits in syntax comprehension were treated through expressive language intervention, in which adults provided models, recasts and imitation of age-appropriate grammar during natural interactions.

It is important to note that the findings reported above were consistent across various communication profiles including:

- Children with Autism Spectrum Disorder (Watters et al., 1981; Wynne & Smith, 2003; Bao et al., 2017)
- Children with Specific Language Impairment (Camarata & Yoder, 2002; Camarata, Nelson, Gillum, Camarata, 2009).
- Children with Developmental Delays (Gillum & Camarata, 2004; Keller & Bucher, 1980; Yoder & Warren, 2001).

What is the quality of the evidence regarding receptive language intervention?

Part of thinking about evidence-based practice is to find not only the evidence in support of the types of interventions we offer, but also to consider the quality of the evidence we obtain and to examine it critically. The purpose of examining it critically is to ensure that we have the means to generate a reliable answer to our question (ASHA, 2006).

The limited number of studies that focus on children with receptive language delays is a limitation in itself. Other limitations regarding the receptive language literature include:

- **Old studies** - many of the studies were published quite a long time ago
- **Small sample sizes** - many studies had small sample sizes and the children often presented with varying levels of receptive language abilities. This is a limitation because children with milder receptive language impairments may make greater improvements over time, which can skew the findings (Thal & Tobias, 1992)
- **Weak designs** - most studies had weak designs (i.e. did not randomly assign participants, unclear whether blinding occurred in the studies).

Step 3) Making the clinical decision using our own clinical experience and judgement, while considering the client and families values and preferences.

According to ASHA (2006), considerations when applying one's clinical experience and judgement to selection of an intervention should include:

- Experience level of the clinician offering receptive language intervention
- Activities the children find motivating and enjoyable

- Family values and beliefs about intervention, and the level of parent and child engagement.

A study by Law, Campbell, Roulstone, Adams & Boyle (2008) examined the receptive language intervention experience of 56 practicing SLPs in the UK. The purpose of the study was to determine the rationale SLPs gave for their interventions with children with RLI's.

Rationale for each therapy activity described by clinicians was coded under two rationale types:

1. Practical rationale: this reflected an explanation for the intervention activity being provided without any references to an explicit theory. Rather, the rationale is based on inferred knowledge "shared by a group or organization" (Freeman, 2004). Some participants gave descriptions of approaches to therapy, general beliefs, published programs or courses they had attended as rationales. These are usually not explicitly theoretical rationales but tend to reflect the clinicians own experience.
2. Theoretical rationale: this referred to theoretical understandings for receptive language intervention.

General findings:

- Overall, few similarities were found in the interventions provided to children with receptive language impairments.
- Limited responses provided a theoretical rationale and, those that did, rarely provided the same rationale for the same activity.
- The intervention activities for narrative skills have often been developed by clinicians, but rarely have any basis in research.
- There is a wide range of practical rationales adopted by individual clinicians to explain their choice of therapy activities.

The study demonstrated that the clinicians appeared to be developing their own theories of what constitutes effective therapy. Most of the clinicians in the study based their clinical decision on practical rationales for the selection of receptive language interventions.

Implication for Intervention: What does this mean for your clinical practice?

Ultimately when it comes to receptive language intervention, we know that there is limited evidence to support SLPs directly treating RLI's (Law, Garrett & Nye, 2004). But, we also know that children with receptive language impairments are consistently identified in the literature as having poorer outcomes long term (Law et al., 2008). So, it seems that we can feel comfortable that, when working with a child with a RLI, focusing on expressive language goals will improve receptive language.

Therefore, we can assume that expressive strategies like "focused stimulation" and "expand" build receptive language skills as well. We would still recommend that parents learn to "Add language to build the child's understanding of the world" since this isn't a goal as such but involves adding language that builds on the child's interests and adds new ideas and concepts, as the child is ready. And in the same way that expressive language builds receptive language, we can expect increased receptive language to build expressive language.

Final Thoughts…

We know that rich language learning environments are helpful for the development of language in young children. By encouraging parents to provide rich expressive language input during their daily interactions with their child, we are promoting not only a child's expressive language development, but their receptive language development as well. According to Law, Garrett & Nye (2004), no significant differences in receptive language abilities were found between interventions administered by trained parents and those

administered by clinicians. Therefore, Hanen programs are a suitable intervention option for children with RLI's. This is because parents are supported in learning to successfully use the expressive language facilitation strategies in everyday natural interactions with their children.

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