Setting the stage for first words:
Is babbling or pointing more important?

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“When will my child start to talk?”

Ahh….the question every speech language pathologist has heard many times! All parents want their child to talk, and so do we. But it can be very difficult to determine when a child might begin using words to communicate.

Two precursors of words – babbling and pointing – are at the top of our list when assessing nonverbal children’s readiness for spoken language. Both of these precursors have been linked to later language, but different theories exist as to which one is more important for predicting the onset of first words.

We don’t yet know whether an infant’s vocal and gestural abilities reflect a single underlying construct for communication readiness (and therefore develop in synchrony) or whether they follow different developmental trajectories (McGillion, Herbert, Pine, Vihman, dePaolis, Keren-Portnoy, & Matthews, 2017). If babbling and pointing develop in synchrony, neither one should predict the emergence of words better than the other. However, if the development of babbling and pointing is not correlated (i.e they do not develop in synchrony), then these two modalities may show different predictive abilities when it comes to first words.

A recent study by McGillion et al. (2017) examined pointing and babbling in 46 young children in order to answer the following questions:

| Do early pointing and babbling emerge in synchrony (and therefore reflect the same underlying readiness construct)? |

And if pointing and babbling don’t develop in synchrony, the authors wanted to know:
In order to do this, they controlled for maternal education (as a proxy for infant-directed speech) since it has been shown to influence language development.

**POLL**

What do you think the authors found?

What better predicts the onset of first words:

- Babbling
- Pointing
- They both predict first word onset equally well

Read on to see if your prediction about these predictors is right!

**Some things to know about pointing and babbling**

Before we look at the study, let's review some key highlights in the development of pointing and babbling (McGillion et al., 2017):

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<tr>
<th>Interesting points about pointing</th>
<th>Interesting points about babbling</th>
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<tr>
<td>• Pointing with extended index finger can appear as early as 3 months</td>
<td>• While infants vocalize from birth, they don’t produce speech-like sounds until late in their first year</td>
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<td>• Pointing with communicative intent does not emerge until 9-15 months, and, at this stage, infants extend their arm and index finger</td>
<td>• An important babbling milestone is reached when infants begin “canonical” babbling between 5-10 months (Iyer &amp; Oller, 2008)</td>
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<td>• Pointing with intent reflects the first true means of triadic communication available to the child (the ability to share attention with someone and communicate about an object or event)</td>
<td>• Canonical babbling involves well-formed syllables that include at least one consonant and one vowel (e.g. “bababa”) (Oller, Eilers, Neal &amp; Schwartz, 1999)</td>
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<td>• “Protoimperative” pointing is used to make a request, whereas “protodeclarative” pointing is used to direct another person’s attention</td>
<td>• The sounds, prosody, and consonant shape in babble are influenced by the infant’s language environment</td>
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<td>• The consonants used in babble are usually the consonants that appear in the child’s first words</td>
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**Study: The predictive value of babble, pointing and SES**

McGillion et al. (2017) studied 46 monolingual English-speaking mother-infant dyads when the infants were between 9 - 18 months of age. They videotaped and analyzed 30 minutes of naturalistic free play during weekly home visits when the infants were 9-13 months old. Then, when the children were 13 months of age, the recordings were made biweekly. Once the children consistently produced two consonants, the recordings decreased to once per month until
the children were 18 months. Caregivers were asked to complete a diary documenting any new communicative behaviours at each home visit.

The authors analyzed the following:

- **Babble onset** – this was defined as stable production of two supra glottal consonants. A consonant was considered “stable” if it was produced at least 10 times in three of four consecutive home visits, or if it was produced 50 times within one recording session.
- **Pointing onset** – this was defined as a spontaneous index-finger point with the other fingers curled back, produced while the infant was looking at an object or event of interest.
- **Maternal and paternal education** – because maternal and paternal education levels were highly correlated, only maternal education was included in the analysis (the mother was the primary caregiver for all dyads in the study).
- **First word onset** – the age at which infants spontaneously produced four different words.
- **Vocabulary at 18 months** – the Oxford Communicative Development Inventory (OCDI) (Hamilton, Plunkett & Schafer, 2000), a British version of the MacArthur Bates Communicative Development Inventory, was used to measure receptive and expressive vocabulary at 18 months.

**Results**

First the authors looked at the relationship between babbling onset and pointing onset, and how this related to maternal education:

- There were large individual differences in age of babble and pointing onset.
- Babble onset tended to precede pointing onset (generally around 3 months earlier).
- The average age of babble onset was approximately 10 months (range was 9 – 15 months).
- All infants had begun babbling by 15 months and pointing by 18 months.
- Pointing and babbling onset were not significantly correlated, which suggests they are not different reflections of a single communicative readiness construct.
- Maternal education was not related to babble onset.
- There were small to moderate correlations between maternal education and pointing onset, and between maternal education and vocabulary at 18 months.

Then the authors used age of babble and pointing onset and maternal education to build regression models that would predict first word onset and vocabulary at 18 months. They found that:

- **Babbling onset was the best predictor of age of first words** - In fact, six children produced first words before pointing had even emerged. The authors conclude that pointing is not a necessary precursor to words.
- A model including both babbling onset and maternal education best predicted expressive vocabulary at 18 months.
- A model including both pointing onset and maternal education best predicted receptive vocabulary at 18 months.
So what does this all mean?

- **Babbling may be more important than we thought**

McGillion et al. (2017) explain:

“These findings suggest that phonological readiness is more important for the transition to word production than previously recognized” (p. 162).

They offer several possible explanations about why babble onset predicts later word production. It could be that early vocalizing allows infants to elicit responses from their caregivers that:

- Encourage more vocal practice
- Make salient the communicative function of vocalizing
- Help infants identify the function of first words

(MCGillion et al., 2017)

- **What’s the point of pointing?**

In contrast to predictions in the literature about the importance of pointing as a precursor of word production, pointing did not predict first word onset. In fact, some children acquired pointing after their first words emerged.

Pointing did, however, predict receptive vocabulary at 18 months, so it may have a role in later lexical development. The authors suggest this might be the case because:

- parents tend to respond to their child’s gestures with words, and this builds receptive skills
- the social interaction skills needed for pointing may become increasingly important for vocabulary development during a child’s second year

McGillion et al. report that a recent meta-analysis by Colonnesi, Stams, Koster & Noom (2010) found that the association between pointing and language increases with age, so findings from the current study support this notion.

- **Why didn’t babbling predict receptive vocabulary?**

You would think that babbling would predict both expressive and receptive vocabulary at 18 months, not just expressive vocabulary. But McGillion et al. suggest that while infant pointing is intentional and directed towards a specific object or event (thereby eliciting words from caregivers), some babbling is not communicatively intentional or aimed at directing someone’s attention towards something. While caregivers do respond to their child’s babble, they may not do so by mapping words onto this sometimes unintentional or unclear vocalizing.
Putting this into practice

Delayed (or absent) babbling or gestures (including pointing) are risk factors that indicate a potentially persistent speech and language difficulty (Earle & Lowry, 2015), so we need to keep these pivotal skills on our radar when assessing young children. Both of these skills exert an influence on infants’ ability to communicate, but it may be the “onset of babble that paves the way for children’s first words” (McGillion et al., 2017, p. 163).

Here are some tips to help you look at babbling in your work with young children:

- **Assessing babbling**

Assessment should include both direct observation of the child’s sound repertoire while babbling, as well parent report of babbling heard at home. Clinicians can note whether the child has reached the canonical babbling milestone where syllables are produced that contain at least one consonant and vowel. It’s also important to note the child’s babbled sounds as these are often the sounds used in the child’s first words (McGillion et al., 2017). This information can be helpful when selecting initial vocabulary targets.

In the Target Word™ Program, we don’t always go straight to word production when establishing goals for late talking children. Sometimes the initial goal is to encourage the child to be more “noisy”, meaning we want to encourage the child to use sounds during his communicative turns. It has always amazed me how many late-talking toddlers arrive at our clinics with good receptive skills and even some early gestures, but they are strikingly quiet. Parents often report that these children never really babbled as infants and have always been relatively quiet. But during intervention, once they become more “noisy”, their verbal imitation and word production skills seem to take off. This makes sense in light of McGillion et al.’s findings.

- **Responding to babbling**

An interesting point highlighted in the above study is that while pointing often elicits a word from caregivers (they may label the item that the child is pointing to), this isn’t always the case with babbling. Not all babbling has a clear, communicative target, and this can make it difficult for parents to know how to respond. Some key strategies to help caregivers notice and respond to their child’s babbling include:

  - **Observe, wait, and listen** – parents can be encouraged to pause and wait in order to give their child an opportunity to babble. While they are waiting, they can listen carefully to the sounds their child is making. And by observing their child’s focus, they can determine if the babbling relates to a specific message about something that has caught their child’s attention.
  
  - **Interpret** – if the parent determines that the babbling relates to an intentional message, he or she can interpret by putting their child’s message into words. For example, if the child is looking at a car out the window and says “bababa”, the parent might interpret by saying “there’s a car” while pointing to the car.
  
  - **Imitate** – if the babbling seems unintentional (doesn’t relate to a specific message), a great strategy is to imitate the child’s sounds. Often this turns into a copycat game, with parent and child vocalizing back and forth, and this tends to encourage more vocalizing.
We’ve created an article for caregivers to help them understand the importance of babbling and encourage and respond to this early communication skill. Feel free to distribute this article to the families with whom you work.

And concerned caregivers can also be directed to our website for information about important communication milestones and warning signs which indicate that intervention may be warranted.

References


About The Hanen Centre

Founded in 1975, The Hanen Centre is a Canadian not-for-profit charitable organization with a global reach. Its mission is to provide parents, caregivers, early childhood educators and speech-language pathologists with the knowledge and training they need to help young children develop the best possible language, social and literacy skills. This includes children who have or are at risk for language delays, those with developmental challenges such as autism, and those who are developing typically.

For more information, please visit www.hanen.org.

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