

WHAT COMES BEFORE WORDS?

The Beginnings of Language Development



Following her article in *emag* 72, Amy Bidgood shares some of the research findings that are beginning to emerge from the Language 0-5 Project about the role of prelinguistic skills in children's language development, putting it in the context of other research in the field.

Many babies say their first word before they reach their first birthday. From then on, children learn to say more and more words, gradually at first, and then with increasing frequency. The speed of word and, later, grammar learning can vary considerably from child to child. However, a child's first word does not come out of the blue – they have already learnt a lot about language and communication before they get to this stage.

Even before they are born, babies are learning about language. Research has shown that newborns can recognise their mother's voice, the language she speaks and even passages from books that their mother has read out loud in the last few weeks of

pregnancy (respectively, Spence & Freeman, 1996; Moon et al., 1993; DeCasper & Spence, 1986). Experiments have also shown that babies as young as 6 months of age can recognise familiar words, like 'hands' and 'banana' (Bergelson & Swingley, 2012).

In the Language 0-5 Project, which I wrote about in the last edition of *emagazine*, we are following 80 children from the age of six months until they are 4½ years old. Every few months, we ask the parents to complete a checklist of words and gestures that their children understand and use. At 8 months of age, only a few of our babies were saying any words at all. In contrast, they could understand, on average, about 25 words.

So, babies can already understand quite a lot before they start to say words – but that is not all they can do! Babies practise producing the sounds of their language by babbling. They also start to use gestures to communicate with the other people around them. For example, they might point at an object they find interesting, or show an exciting toy to their parent while they're playing together. Babbling and pointing are two of the 'prelinguistic' skills we study in the Language 0-5 Project.

The Role of Babble

We are interested in finding out whether children whose babble contains a wide variety of different consonants early in development then produce more words a few months later. Recent research by Michelle McGillion and colleagues (McGillion et al., in press) has suggested that this might be the case. Their study showed that the younger babies are when they can produce two 'stable' consonants, they more words they are able to say when they are 18 months old. A stable consonant is one that the baby either says at least 50 times in a 30-minute recording, or one that they say at least 10 times in three out of four 30-minute recordings. In the Language 0-5 Project, we do not have the same recordings that McGillion and colleagues used; instead, we ask parents to fill in a questionnaire about the sounds their children produce when they are babbling. We do this every month from when the babies are 8 months old until they are 15 months old.

We have found that children's early babble, when they are under a year old, does not have an influence on their later vocabulary development. There are a number of reasons why this might be the case. For example, when babies are still learning to pronounce the sounds of English, it can be very difficult to tell which consonant they are actually saying. This means that parents might not be accurate in reporting which consonants their child can produce. The trained transcribers in McGillion's study were much better placed to be able to do this. However, by the time the children in the Language 0-5 Project are 15 months old, when their babble is clearer, we see something different. The more consonants a child can produce at this age, the more words the babies are able to say when they are 18 months old. This suggests that practising the sounds of English is an important step towards being able to say whole words.

The Importance of Gestures

As well as investigating whether children's babble influences their vocabulary development, we are studying whether children's early communicative gestures play a role in this. Researchers like Malinda Carpenter (Carpenter et al., 1998) have suggested that children's gesture use, and their ability to point in particular, is an important step in the development of communication and language. This is because pointing allows babies to 'share attention' with the other people around them, to let them know what they are

interested in. As well as looking at babble, Michelle McGillion and her colleagues looked at the age at which the babies in their study started to point. They found that the younger babies were when they started to point, the more words they were able to understand when they were 18 months old. The age at which they started to point was not related to the number of words they could say, though.

In the Language 0-5 Project, we use a different measure of children's ability to point. Rather than looking at the age at which they start using this gesture, we look at how much pointing the children do when they are all the same age. When they are 11 months old, we visit them at home, with one of their parents. We take some interesting objects with us, attached to a display board, and ask the parents to look at these with their baby. Afterwards, we give them some toys to play with together. We do not tell the parents that we are interested in their baby's gestures, because we want to see what parent and child do naturally. Some of the objects on the boards are particularly appealing to the babies: the tinsel, the rubber duck and the pictures of other children all elicit a lot of pointing!

Our results seem to show that the more pointing babies do when they are 11 months old the more words they understand when they are 15 months old. However, at the moment, this finding is not quite statistically significant (which means we cannot be certain that this pattern is not due to chance). Currently, we only





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have these data from 17 of the 80 children in our study because of the length of time it takes to code the videos, and smaller numbers make it difficult to be sure about our findings. The pattern is strong, though, so we are optimistic that the result will become significant once we have data from more babies.

To back up the findings from our pointing study, we have data from a questionnaire parents complete about their child's gestures, also at the age of 11 months. Looking at data from questionnaires is much quicker than watching the videos back and coding the children's gestures, so we have data from 73 children this time. The results show that the more different gestures children are making at the age of 11 months (including pointing, showing, waving, etc.) the more words they understand when they are 15 months old. With data from so many more children, this finding is statistically highly significant. Taking the findings from our pointing study and questionnaires together, then, children's use of gestures at 11 months gives us a good indication of how big their vocabularies will be 4 months later.

Prelinguistic Skills and Language Development

The findings from the Language 0-5 Project build on previous research by showing that language acquisition does not start at the point when a child says his or her first word. Babies understand some words long before they can say them, and those who do more pointing and use a greater variety of gestures understand more words a few months later. Babies who babble with a greater variety of consonants also have bigger spoken vocabularies a few months later. Paying attention to these early stages of communicative development, and encouraging babies to use these developing skills, is therefore likely to be a good way to encourage children's language development.

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