



Word learning and lexical semantics in language development: What do young children know about nouns and verbs?

Dear parents, children and nursery staff,

Thank you for helping Wee Science at the University of Edinburgh with our research! We have now completed the data collection for a study on word learning in two- to five-year-old children. In this study we were trying to understand **how children of different ages figure out what words mean by watching short videos, and without explicit labelling and teaching.** The following paragraphs explain what the study was about and what we found.

Background

In English and many other languages we often use the same word for an action and the instrument we use to perform the action (e.g. we hammer with a hammer and brush with a brush). In this study we wanted to understand when young children notice this and whether learning the name for an action allows them to automatically guess the name for the instrument without it ever being directly demonstrated.

How did we test this?

Children played a short game on the iPad with Elmo, a character from Sesame Street. Elmo was using some 'funny' (made-up) words. He performed some actions (e.g., flattening some play-dough using a toy that looked like a hammer) while describing the action (e.g. 'Look at this! Elmo calls this *pabbing*.'). At test, children saw the toy and the play-dough simultaneously presented on the screen as Elmo said 'Now, Elmo wants the *pab*. Which one does Elmo call the *pab*? Can you tap the *pab*?'.

What did we discover?

We found that older three-year-old children begin to automatically assume that labels for actions and instruments overlap. After watching Elmo '*pabbing*', they selected '*the pab*' as the label for the instrument, not the play-dough substance.

With the help of your children, we discovered that from this age their knowledge becomes even more sophisticated: older three-year-olds assume not only that the words for actions and instruments are related (e.g., 'We *pab* with a *pab*.'), but they also infer that any new and unrelated labels (e.g., '*the neefoo*') does not refer to the instrument, but must refer to the substance.

This shows that older three-year-olds can learn two or even three new words from a single label referring to an action, without any direct teaching, just from listening and watching. The study also indicates that younger children require more direct labelling and support from adult speakers who can point and label new words for them.

If you would like more information about this study or if you want to find out more about our work, please contact Dr Barbora Skarabela at B.Skarabela@ed.ac.uk or wee.science@ed.ac.uk or visit us at <http://www.weescience.ppls.ed.ac.uk/>.

Thank you for helping Wee Science with our research!