

2018

# An update from the Language Lab

*Dear Families,*

Here's to another year at the Language Lab!



It has been a big year for changes. We have bid farewell to wonderful former Lab Manager, Lauren Morrison, and Amanda has ably taken her place. Katherine welcomed baby Tammy into her brood and while she was on maternity leave, Tanya joined the lab. Of course, amongst all of this, we've been doing a lot of research. A big THANK YOU to everyone who has been involved in our research endeavours this year. Here's what's been happening...

## The Canberra Longitudinal Child Language Project

The Canberra Longitudinal Child Language (CLCL) Project is tracking the typically developing language of a cohort of approx 120 Canberran children, from 9 months old through to 5 years of age - when they will be ready for school. (For details, see the CLCL tab on our website: <https://anulanguagelab.wordpress.com/clcl-project/>).

As of October this year the entire cohort had completed the first eight testing sessions; up until 3 years of age (36 months). They really are growing up fast!

In 2018 we continued with the eye-tracker and introduced some new language games for the children to play with our experimenters. We are ever so grateful for the time that parents have been putting into the questionnaires that are being sent home too.



Here are some of the things we have discovered from the analyses that we have conducted thus far:

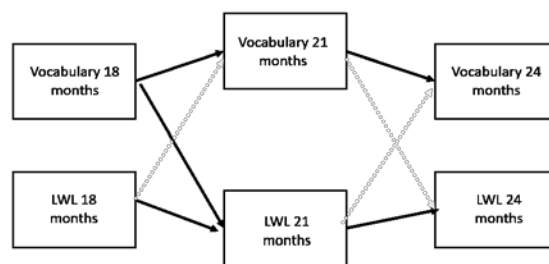
## Comparing 18, 21 and 24 month Eye-tracking Results

We administered the Looking While Listening Task, shown below, at 18, 21 and 24 months. In this task, children heard sentences such as “Where is the cat?”



We measured the amount of time it took children to look to the target image, in this case the cat. This is a measure of their lexical processing speed—the speed with which they recognize known words. This speed is known to be associated with their vocabulary size: children with larger vocabularies recognize words more quickly than children with smaller vocabularies. But why is this so? Does knowing more words speed up word recognition, or are children who recognize words more quickly able to learn more new words? Our longitudinal design allowed us to answer this question. Children with larger vocabularies at 18 months had greater gains in lexical processing speed than did children with smaller vocabularies. However, children with faster lexical processing speed at 18 months did not gain more in vocabulary between 18 and 21 months than children with slower lexical processing speed. Between 21 and 24 months, these variables were unrelated.

This is shown in the figure below. So it seems that learning words speeds up lexical processing speed, but only up until 21 months.



## Publications

In 2018 we have been fortunate enough to publish (finally!) some of our recent research, including our first paper from CLCL! Below is a short description of each paper. If you want a copy of the full length version, email Amanda for a copy ([amanda.piper@anu.edu.au](mailto:amanda.piper@anu.edu.au)), or download them directly from Evan’s publications page (<https://www.mpi.nl/people/kidd-evan/publications>).

### Individual differences in infant segmentation

In this first paper to be published from the CLCL cohort, we found that individual variability in children’s ability to identify words in running speech at 9 months (the very first task we conducted, using the EEG system that recorded children’s brain responses to speech) significantly predicts children’s vocabulary at 15 months. The reference for the paper is:

Kidd, E., Junge, C., Spokes, T., Morrison, L., & Cutler, A. (2018). Individual differences in infant speech segmentation: Achieving the lexical shift. *Infancy*, 23, 770 - 794.

## *Symbolic play is associated with language development in children aged 1 – 6 years*

In this paper, Sara Quinn (former PhD student and RA), Seamus, and Evan analysed past research from 35 studies to show that there is a significant association between children's symbolic play (e.g., pretend acts like pretending a banana is a telephone, or pretending to be a character) and language development. This was the first paper published from Sara's 2016 PhD thesis. The paper created quite a buzz on social media. The reference for the paper is:

Quinn, S., Donnelly, S., & Kidd, E. (2018). The relationship between symbolic play and language acquisition. A meta-analytic review. *Developmental Review*, 49, 121 - 135.

## *Symbolic play creates a fertile context for communicative interaction*

In the second paper from Sara's thesis, we found that symbolic play creates many more opportunities for communicative exchange between 18-month-old infants and their caregivers than a comparable play context that doesn't typically involve pretending (e.g., building blocks). This is an exciting result that Noelle is following up in her PhD thesis (spoiler: symbolic play appears to be just as important at 24 months!). The reference for the paper is:

Quinn, S., & Kidd, E. (2018). Symbolic play promotes non-verbal communicative exchange in infant-caregiver dyads. *British Journal of Developmental Psychology*. doi:10.1111/bjdp.12251.

We have several other papers in preparation or in submission, so watch this space for more to come!

## *Language in context: Pretend play and language development*

Noelle is in the final year of her PhD, in which she is investigating the play contexts in which children learn language. Over the course of her work at the lab, she has looked at language differences in pretend and goal-oriented play in 24-month-old infants (for more details see last year's newsletter). Her findings continue to support previous language lab results that pretend play is more beneficial to language development than other types of play.

She noted that conversations are more complex in pretend play and children are more likely to select the topic of conversation during pretend. The exchange of information is more balanced in pretend play (i.e., infants and parents have equal amounts of turn-taking), therefore more interactive. In goal-oriented play (e.g., completing a puzzle), adult play partners take the lead, restricting the child's linguistic participation. Pretending may be more of a linguistic challenge to children, but it is also more helpful to their language development.

Her work continues to be well received within our field and this year she was asked to present at the International Congress on Infant Studies in the USA and at the Max Planck Institute for Psycholinguistics in the Netherlands.

# Individual Differences in Language Development (IDLD) Project

We have now completed all testing phases for our ARC Discovery Project, entitled “Discovering sources of individual differences in child language acquisition”! The IDLD Project follows over 120 typically-developing children from several Canberra primary schools. We have been tracking the progress of their language, literacy, and “statistical learning” abilities through two years of their early primary schooling (comprised of four testing phases, each six months apart).

In our fourth and final testing phase, children completed some of their old favourites, and participated in a standardised measure of their overall language development, using the *Clinical Evaluation of Language Fundamentals* (CELF, 4<sup>th</sup> edition). The students enjoyed participating in new tasks where they tested out their abilities to listen and follow directions, copy back spoken sentences, and make up their own sentences from a picture. It is great that all schools have now completed all four phases of testing! The huge job of data entry and analysis is well under-way and we are excited to see what comes out of the data. Evan has presented some of the results already at a conference in Berlin in September and again

as part of a plenary presentation in Canberra in November.



Tanya and Shanthy celebrating Harmony Day at a Canberra Primary School

Once again, we would like to say a big thank you to all the Canberra schools and students who participated in the IDLD project. It has been a pleasure watching the children’s language skills progress over the last two years, and we look forward to sharing our findings with you!

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You can learn more about the details of the IDLD Project and follow its progress here: <https://anulanguagelab.wordpress.com/idld-project/>

# Meet the Language Lab Team



## **Dr Evan Kidd**

Evan is an Associate Professor in the Research School of Psychology at The Australian National University, and is the Language Lab's founder. He has been studying child language acquisition for 18 years in a number of different countries and cultural contexts, from "big city" contexts like Canberra to the wilds of Papua New Guinea.



## **Amanda Piper**

Amanda is the Research Officer currently managing the Canberra Longitudinal Child Language Project. She completed her Bachelor degree in Applied Psychology at The University of Canberra and went on to clinical studies, before having her two children, now aged 7 and 10 years-old. She previously taught at the ANU Research School of Psychology before moving to the language lab at the start of 2018.



## **Seamus Donnelly**

Seamus is instrumental in the analysis and interpretation of our various growing data sets, especially the CLCL Project. He has been with the lab since the beginning of 2016, and has presented the findings of our research at several international conferences. Seamus' PhD research, completed at the Graduate Centre at the City University of New York, investigated the effects of bilingualism on cognition.



## **Katherine Revius**

Katherine is a Research Officer who joined the Lab in mid-2016. She coordinated and tested for the IDLD longitudinal project and is a valuable contributor in the lab overall. Previously, she has worked in the Child Language Lab at Macquarie University. Katherine has a degree in Linguistics from The University of NSW, and is a mum of three.



**Shanthi Kumarage** Shanthi began working with the Lab as a Research Assistant last year, after having previously assisted on several studies and completing a student project with us. She has recently completed testing for the IDLD project alongside Katherine, as well as working with data for the CLCL Project. Shanthi also completed her Honours thesis at The ANU last year, which examined factors influencing children's learning of grammar.



**Tanya Price**

Tanya completed her Psychology Honours degree at ANU and Master of Speech Language Pathology at University of Sydney. She has experience working on a range of developmental research projects, looking at children's speech and language. She also worked clinically as a speech pathologist.



**Noelle Creaghe** Noelle is currently undertaking her PhD research at the Lab (supervised by Dr Kidd and liaising with Dr Quinn), investigating the effect of different types of play on language acquisition. She completed her degree in Psychology at Harvard University and is mum to a 3 year-old!

Thank-you from the Language Lab team for your interest and involvement in our research.

More information about the Language Lab's research projects and activities is on our website:

<https://anulanguagelab.wordpress.com/>

Also on Facebook:

[www.facebook.com/LangLabANU](http://www.facebook.com/LangLabANU)