

# The science behind how children learn to talk

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# LuCiD



The ESRC International Centre for Language  
and Communicative Development

- International Centre funded for 5 years from 2014
- by the Economic and Social Research Council at £9.3million
- [across University of Manchester](#) , the [University of Liverpool](#) and [Lancaster University](#)
- Over 40 researchers and 7 PhD students
- Investigating key research questions about language development

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# What are we doing?

## Five Themes

**Environment**

**Knowledge**

**Communication**

**Variation**

**0-5 longitudinal study**

# Creating the best environment for language learning

# Individual differences in number of words learned and heard

At 18 months:

Fastest children know 320 words

Slowest children know 4 words

Children in the USA: Using a language check list

At 12 months:

Children of the most talkative parents hear 36,000 words a day

Children of the least talkative parents hear 9,000 words a day

LuCiD 0-5 project: Recording the language round the children for 12 hours

# Why does word learning matter?

because it is related to later language development, school readiness and reading

300 children: 16 – 24 months

vocabulary assessed by parent report

Followed up about 5 years later

vocabulary and reading skills measured

- For the group: the early measures were significant predictors of later outcomes
- But not at the individual level because the majority of late talkers catch up
- Family risk of language and literacy problems made predictions about reading outcomes more stable

What makes learning names easier?



# Joint attention and following in



## Joint attention:

Paying attention to the same thing and knowing that you are doing so

## Predicts:

Vocabulary size in early language learning

## Following in:

Following the child's focus of attention and talking about it

## Predicts:

Faster vocabulary development

# When the baby hears a word



[Linda Smith: APA Psy talk](#)

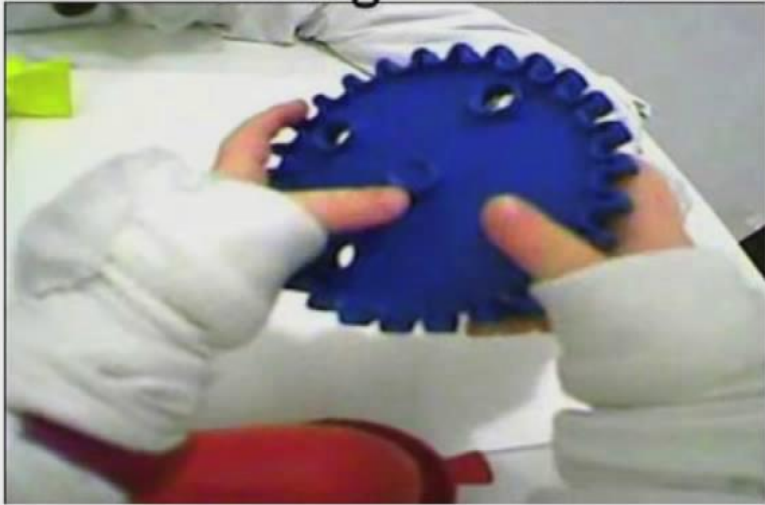
<https://www.youtube.com/watch?v=yMyn8j8sMjA>



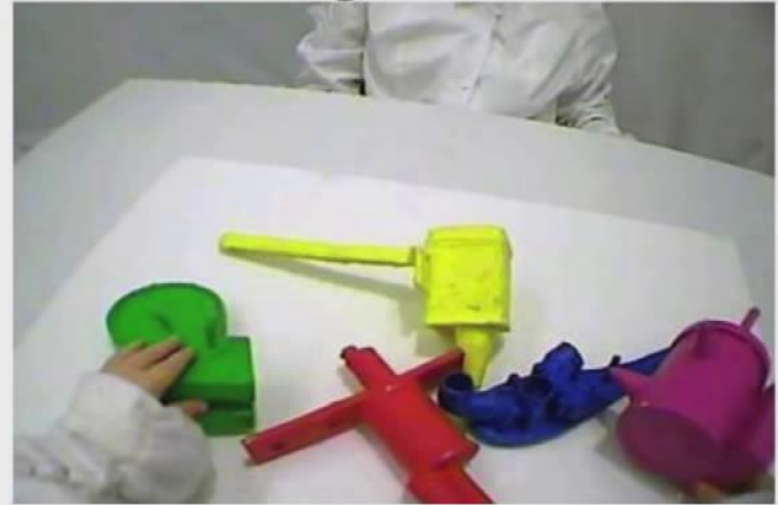
[Linda Smith: APA Psy talk](https://www.youtube.com/watch?v=yMyn8j8sMjA)

<https://www.youtube.com/watch?v=yMyn8j8sMjA>

A good  
naming moment



A not so-good  
naming moment



[Linda Smith: APA Psy talk](https://www.youtube.com/watch?v=yMyn8j8sMjA)

<https://www.youtube.com/watch?v=yMyn8j8sMjA>

# How quickly children can process what they hear



*Find the .....*

*Dollie*

12 months

15 months

24 months



Fernald and others,  
1998

# The same old story

- 3-year-old children
- 9 Stories with funny names for funny objects
- 3 stories a night, 3 times in a week
- One group heard the same story repeated 3 times
- The other group heard 3 different stories
- But all three stories on one night had the same 2 funny names repeated in each (either the same or different) story

So they heard 6 funny names over one week,  
2 per night repeated 8 times in 3 stories

When the children heard the same stories repeatedly they learn the words a staggering 200% better than children who heard the same words the same number of times but by hearing different stories

# Can **non-home** environments make a difference?

Can be very difficult:

- Other cultures, other languages
- Struggling home environment
- Children with developmental problems

# In both home and non-home environments:

- Encourage turn-taking, more paced interaction
- Encourage talking about what the child is looking at/interested in
- Encourage book reading – fine if it's the same book over and over again. Doesn't have to have a text, can just talk about the book/tell the story



# Teachers and nursery staff can make a real difference

- Headstart children moving into reception
- Language measured at beginning and end of year
- Teachers' language measured for how complex it was
- Children who had spent a year with a teacher with more complex language showed a greater gain in language skills at the end of the year

**Huttenlocher et al., 2002**

**BUT this does depend on continuing support through transition to school and beyond:**

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## Video:

[Linda Smith: APA Psy talk](#)

<https://www.youtube.com/watch?v=yMyn8j8sMjA>)