



Morphology and reading comprehension development

Background to the project

Morphemes are the smallest meaning units within (spoken) words, e.g., 'un' is a morpheme that when added to a base word indicates 'not', as in 'unhappy'. An understanding of morphemes is critical for understanding complex English words such as 'unhappy', 'happier', 'happiness', how they are related, and how they help children to understand text. Our research aimed to build on evidence that an understanding of morphemes is related to children's reading comprehension.

What did the children do?

So far, 98 Year 2 children, 98 Year 5 children, and 156 Year 8 children have taken part in the project. Because morphological awareness is a complex skill, we used six tasks to assess children's understanding of different aspects of meaning and grammatical changes. Examples of these test items can be seen in the table below.

	Analogy tasks	Choice tasks
Compounds (combine words)	A wand that a fairy has is called a fairy wand. What is the name for a wand that an elf has?	Which is a better name for a patch that you wear over your ear? Ear patch or patch ear?
Inflections (tense, plurals)	Child : children Beach : _____	To <u>stick</u> . Jack <i>stuck</i> / <i>sticker</i> / <i>sticked</i> the card together.
Derivations (change word class)	Drive : driver Run : _____	To <u>farm</u> . I want to be a <i>farmist</i> / <i>farmer</i> / <i>farming</i> .

In addition to the assessments of morphological awareness, each child completed an assessment of their reading comprehension, in which they read two passages and answered a number of questions on each. We also measured their word reading, phonological awareness, vocabulary, and nonverbal reasoning ability.

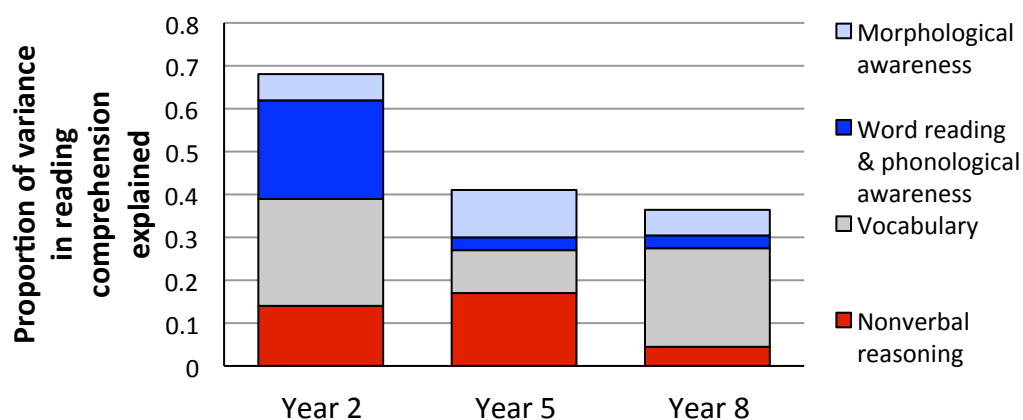
How does morphological awareness develop with age?

As expected, children's performance improved with age: the Year 2 children found the measures of morphological awareness the most challenging, but even the Year 8 children were not perfect on all measures. The tasks that assessed an understanding of compound words were the easiest, and the derivation tasks the most difficult.

Is morphological awareness related to reading comprehension ability, and how does the relationship change over time?

All types of morphological awareness were related to reading comprehension ability, and none appeared to be more important than another. Contrary to previous research, we found that morphological awareness was more strongly linked to reading comprehension in Year 2 children than for children in Year 5 and Year 8.

Further analysis has shed light on *why* morphological awareness had such an impact on the youngest children's reading comprehension: the influence of morphological awareness on reading comprehension was due to the strong influence of morphological awareness on word reading. Children with good morphological awareness typically had better word reading skills than those with poorer morphological awareness. At earliest stages of learning to read, efficient and accurate word reading is one of the key limiters of reading comprehension ability. After accounting for word reading differences in our sample, morphological awareness appeared to play a similar role in reading comprehension ability across all age groups. This is shown by the top light blue bars in the graph below: the bars show that morphological awareness explains children's reading comprehension ability even after the influence of reasoning skills, vocabulary knowledge, and word reading have been taken into account.



Conclusions and future work

In sum, the critical finding so far is that morphological awareness is an important predictor of reading comprehension outcomes from the very earliest stages of reading comprehension development.

We will be working with the remaining Year 2 and Year 5 participants in October-November 2014, before drawing our full conclusions. We plan to look further at whether the influence of morphological awareness on reading comprehension is consistent for children with better or poorer vocabulary. We also look forward to combining our data with our collaborators in Hong Kong, to investigate whether the pattern of results is different for second language learners of English.

We will update you with these findings in due course, but for the meantime you can track our progress at www.psych.lancs.ac.uk/esrc-morphology.

If you have any further queries about this project, please contact Professor Kate Cain (Principle Investigator):

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