

When should morphology be taught in reading instruction?

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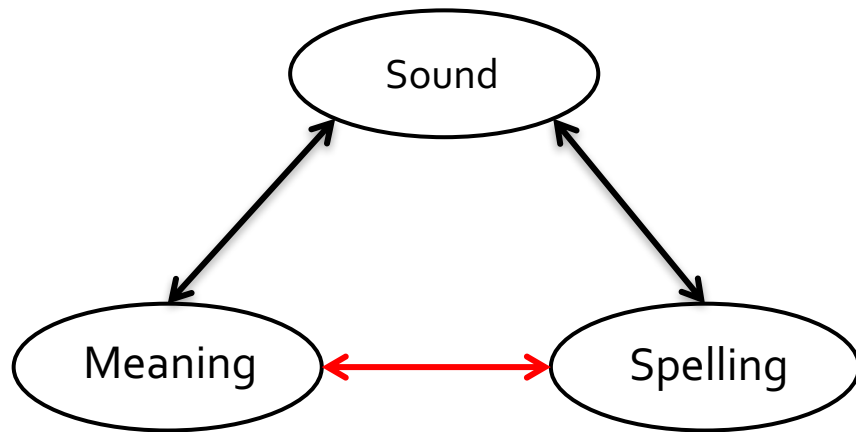
Spelling-sound (phonic) regularities

cab, pat, act, sad
church, chunk, teach, chat

Spelling-meaning (morphological) regularities

banker, teacher, builder, gardener
cleaner, unclean, cleanliness, cleanly

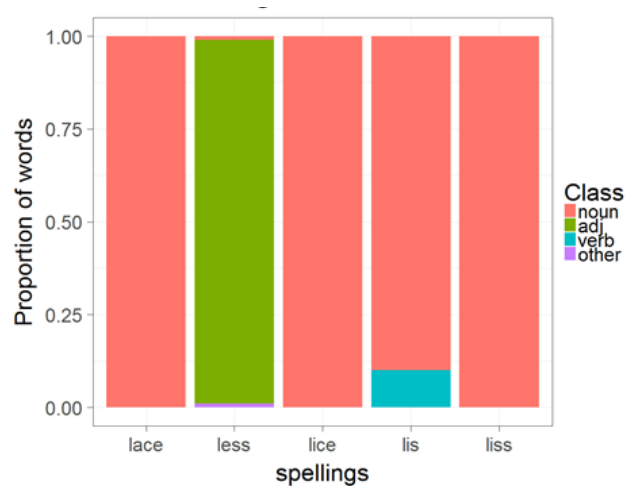
Place of morphology in reading



- Item-level “orthographic learning” (*e.g. Nation, 2017*)
- Morphology dramatically reduces scale of the learning challenge
- Average 20 year old – 71,000 word forms -> 42,000 lemmas -> 11,100 base words (*Brysbaert et al., 2016*)
- Dramatically simplifies spelling

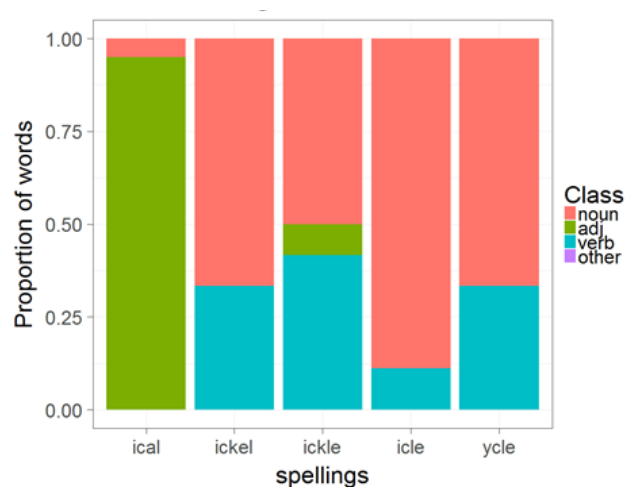
develop, develops,
developing,
developed,
developer(s),
undeveloped,
undevelopable,
developable,
development(s),
developmental,
developmentally,
antidevelopment,

Morphological cues to meaning



Trade-off between phonological regularity and morphological regularity

- One spelling for different sounds (stems: magic, magician)
- Several spellings for one sound (affixes: e.g. –less, –ical); allows particular spellings to become reserved for communicating particular meanings



Spellings communicate meaningful information that is not present in the spoken forms of words



Our reading and spelling experiments show that skilled readers

1. Rapidly access meaningful information encoded in spellings
2. Use different spellings to communicate intended meaning

[sedʒnɪs]

The presentation recognised the impressive **sedgeness** of the protestors

The mourners began to sadly **sedgeniss** .. as the coffin disappeared

Morphological cues to meaning



Our analysis of English spelling has yielded 22 “rules” that guide the spelling of word endings

Sound	Sound as in	Possible spellings for sound	Spelling rule	Rule frequency	Number of exceptions	Critical Spelling	Critical spelling frequency	Examples	Rule exceptions
aɪd	decide	crosseyed, certified, formaldehyde	If noun, use "ide"	74	1	ide	112	pesticide, chloride	formaldehyde
			If verb, use "ide"	28	0			coincide, decide, abide	-
eɪd	parade	milkmaid, aide, limeade, suede	If verb, use "ade"	32	4	ade	85	upgrade, invade, pervade	braid, upbraid

When / how should morphology be taught?



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 **Routledge**
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A Meta-Analysis of Morphological Interventions in English: Effects on Literacy Outcomes for School-Age Children

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- Moderate effect of morphological instruction ($d=.32$).
- Impacts on decoding, spelling, phonological awareness, morphological knowledge, vocabulary; but not reading comprehension or fluency measures.
- But included K-12, variety of interventions, variety of controls, so hard to draw specific conclusions for instruction.

Bowers & Bowers (2017) argument



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Beyond Phonics: The Case for Teaching Children the Logic of the English Spelling System

Jeffrey S. Bowers¹ and Peter N. Bowers²

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- Theoretical and empirical problems with phonics
- English writing is morpho-phonetic
- Instruction should target interrelations between orthography, phonology, morphology, etymology *from the beginning*
- Structured Word Inquiry



Commentary

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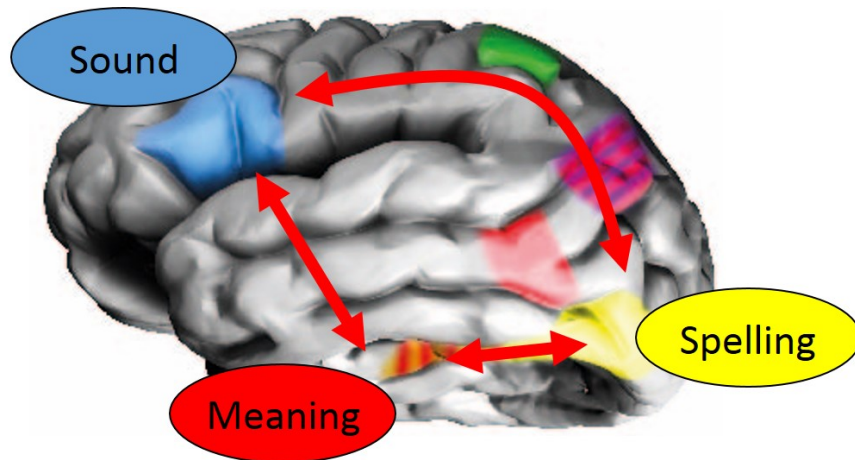
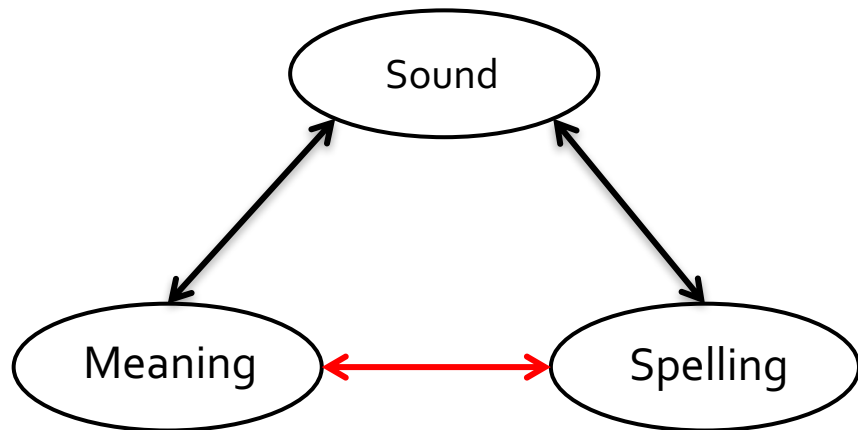
Print-sound regularities are more important than print-meaning regularities in the initial stages of learning to read: Response to Bowers & Bowers (2018)

Kathleen Rastle¹ and J S H Taylor²

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- Morphology is important but not so much in the initial period of reading instruction
- Analysis of words encountered in first year of reading instruction
- 81% spelling-sound regular and 80% single morphemes (remainder usually inflections)
- Instruction needs to be backed up by text experience
- Phonics first, then morphology

Place of morphology in reading



- Spelling-meaning (ventral) pathway still developing into adolescence (Ben Shachar et al., 2011)
- Major morphological effects not visible until late adolescence (Dawson et al., 2017; in preparation)
- Instruction + massive text experience; part of becoming a skilled reader



English – Appendix 1: Spelling

English Appendix 1: Spelling

Most people read words more accurately than they spell them. The younger pupils are the truer this is.

By the end of year 1, pupils should be able to read and spell words containing the GPCs that they have learnt, whether in isolation or in context. Spelling, however, is a very different matter. It is one way of spelling particular sounds, choosing the

Statutory requirements	Rules and guidance (non-statutory)	Example words (non-statutory)
Endings which sound like /ʃən/, spelt –tion, –sion, –ssion, –cian	<p>Strictly speaking, the suffixes are –ion and –ian. Clues about whether to put t, s, ss or c before these suffixes often come from the last letter or letters of the root word.</p> <p>–tion is the most common spelling. It is used if the root word ends in t or te.</p> <p>–ssion is used if the root word ends in ss or –mit.</p> <p>–sion is used if the root word ends in d or se.</p> <p>Exceptions: <i>attend</i> – <i>attention</i>, <i>intend</i> – <i>intention</i>.</p> <p>–cian is used if the root word ends in c or cs.</p>	<p>invention, injection, action, hesitation, completion</p> <p>expression, discussion, confession, permission, admission</p> <p>expansion, extension, comprehension, tension</p> <p>musician, electrician, magician, politician, mathematician</p>

Some bedtime reading ...



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The place of English

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Commentary

Print-sound regularities are more important than print-meaning regularities in the initial stages of learning to read: Response to Bowers & Bowers (2018)

Kathleen Rastle

Abstract

We previously reported that children with phonological dyslexia emphasise learning meaning. Behavioural use of phonics in the

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Ending the Reading Wars: Reading Acquisition From Novice to Expert

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