How Morphology Informs Spelling

Morphology - The study of morphemes, or the smallest parts of words that carry meaning.

Memorizing morphemes in isolation will not necessarily increase vocabulary and spelling. It is "*morphological awareness* [that] is a strong predictor of reading ability, vocabulary knowledge, and comprehension." (Bowers et al., 2010)

Morphological Awareness - The ability to relate morphemes to unfamiliar words, to see how morphemes affect the meanings of base words, and to see how those parts interact to derive meaning.

The English language is *morphophonemic*, meaning it is based on sound-symbol associations as well as small, meaningful word-parts called morphemes. A morpheme can be as small as the suffix <-s>, or as large as the word <elephant>.

Often, when the spelling of a word is not phonetic, there may be a reason for that when you consider the morphemes, and how our pronunciation of these word-parts have changed over time. Developing morphological awareness will have significant positive outcomes on student spelling and further their understanding of word sense, which helps to demystify the orthographic structure of words. This is particularly useful for students with a language-based learning difference such as dyslexia whose phonological and orthographic deficits make spelling more challenging. In addition to supporting spelling, developing morphological awareness benefits literacy skills including vocabulary building, grammar, and reading comprehension.

In the following chart, you will find a list of examples of how developing an understanding of common morphemes can support spelling development. A list of additional supports is also included that include suggested instructional materials and resources to develop a deeper understanding of morphology.

This resource is not an exhaustive list and is not intended to be a systematic scope and sequence. Please use the morphology scope and sequence in your High Quality Instructional Materials (HQIM) to guide your instruction, or if not provided within your HQIM, select an additional resource to inform the order in which you teach these skills. A list of common morphemes is included among other essential foundational literacy concepts on the RIDE student checklist.

Prefixes		
Non-assimilated		
Morpheme Examples	Explanation	Related Word Examples
re - un- pre- trans- anti-	These stable prefixes maintain their spelling no matter what the base-word is that they attach to. It is helpful to teach these as they give clues when the prefix is not stressed and the schwa sound is produced.	What letter do you use to spell the schwa sound in the words: Remind? Pretend? Antidote? Knowing the morphology of the word will help students know for certain.
	When you are introducing these, or any, affixes, consider spelling them instead of dictating them. For example, instead of prefix "re-", prefix r-e- or instead of prefix "pre-", p-r-e- as they can be pronounced differently depending on the stress of the word they are in.	Redo / review Preview / pretend Antioxidant / antidote
Assimilated (Chameleon) Prefixes Some prefixes have the same meaning, but are spelled differently in order to make the articulation of the word easier. For many of the prefixes that change the second consonant, they take on the first consonant of the base-word. This has important implications on spelling.		
Morpheme Examples	Explanation	Related Word Examples
in-, im-, il-, ir-	All of these prefixes can mean "not," but the final consonant depends on the base word. It would be challenging to articulate the word *inrational*, so the prefix adapted to the base word and became <ir->.	Do you use one <n> or two in words like innovative or innumerable? Knowing that the morphology of the word helps students understand why there are two <n>'s. Similar examples are immovable, illiterate, and irrational.
con-, com-, col-, cor-, co-	All of these prefixes mean "with or together." Knowing these assimilations can also help students to know how to spell words that begin with this prefix in an unaccented syllable and therefore sounded as schwa instead of short ŏ.	Examples of doubled letters due to this assimilated prefix: connect, communicate, collaborate, correct, coordinate. Examples of prefixes containing a schwa sound: connect, communicate, collaborate, correct.

dis-, dif, di-	All of these prefixes mean "not, opposite of, or without."	Examples of doubled letters due to this assimilated prefix: dissect, differ.
ob-, oc-, of-, op-	All of these prefixes mean "against" or "in the way of." Assimilations can help students know how to spell hidden consonants in words like "obvious."	Examples of doubled letters due to this assimilated prefix: occupy, offer, opportunity.
ex-, ef-, e-	All of these prefixes most often mean "out from." Knowing the morphology of these words can also be helpful with hidden phonemes. Furthermore, students will understand which letters are used to spell beginning schwa sounds in words in which this prefix is not accented.	Examples of doubled letters due to this assimilated prefix: efficient, effect. Understanding how to spell the hidden /g/ in exit. Example of prefixes containing a schwa sound: exact.
sub-, suc-, suf-, sur-, sug-, sus-	All of these prefixes most often mean "under, below, or secondary."	Examples of doubled letters due to this assimilated prefix: success, suffer, surreal, suggest.
ad-, ac-, af-, ag-, al-, an-, ap-, ar-, as-, at-	All of these prefixes most often mean "to or towards." Knowing these assimilations can also help students to know how to spell words that begin with this prefix in an unaccented syllable and therefore sounded as schwa instead of short ă.	Examples of doubled letters due to this assimilated prefix are: addict, accident, affect, aggravate, allow, annoy, apparent, arrest, assure, attend. Examples of prefixes containing a schwa sound: affect, allow, annoy, apparent, arrest, assure, attend.

Bases
Teaching students about base words will help them understand the spelling of words when the emphasis changes.

A **free** base is a word that can stand on its own (e.g., <think> in the word un**think**able)
A **bound** base, usually formed from a Latin or Greek root, is not a known English word without the addition of an affix or affixes (e.g., <vis> in the word **vis**ion, <graph> in the word auto**graph**)

Morpheme Examples	Explanation	Related Word Examples

| Free and Bound Bases | Often, when a suffix, such as <-ion>, is added to a free or bound base, the pronunciation of the base changes and you often lose the sound of the final consonant. Having an awareness of what these bases are will help students make the correct spelling choices.

Sometimes the stress of a syllable can shift. Guiding students to understand related words that share the same base, but have different stressed syllables, can often inform the spelling. | Example: How do you know if the /shun/ sound at the end of <action> is spelled with a <t> or an <s>? If students know the base is <act>, they will understand why <action> is spelled with a <t>.

Consider the different pronunciations of the base <dict> in the words dictate, dictionary, and indictment.

Other examples:
Base: Related word:
inspire   inspiration
please   pleasant
heal   health |

Suffixes

Inflectional
Inflectional suffixes are added to words to change tense or degree. They do not change a word's part of speech.

Morpheme Examples	Explanation	Related Word Examples
-ing	A common spelling error for young students is to spell suffix <-ing> e-n or i-n due to the hard to hear nasalized <g>. It is important to explicitly teach students that when you hear /ing/, or when you know you are spelling a continuous action verb with that suffix, to spell it i-n-g.	running looking
-s, -es	Suffix -s can be sounded as /s/ or /z/, and suffix -es comes after sh, ch, s, x, and z, is sounded as /ĭz/. It is important to teach students the sound-symbol connection of these suffixes to strengthen the encoding and decoding of these words.	-s says /s/: cats cups -s says /z/: dogs birds -es says /ĭz/ brushes branches dresses boxes

		buzzes
-ed	Teach students that when they hear /ed/, /d/, or /t/ at the end of a past tense verb, it is always spelled e-d!	rented /ĕd/ sailed /d/ jumped /t/

Derivational
Derivational suffixes are added to base words and often change their part of speech. These suffixes occur frequently, so their spellings should be explicitly taught.

Morpheme Examples	Explanation	Related Word Examples
-y	<y> says /ē/ at the end of multisyllabic words. If this /ē/ sound is at the end of an adjective, it is likely that your word is ending in suffix <y>. Knowing this helps grammar, sentence construction, decoding, and reading.	cloudy
-ly	<-ly> is an adverb suffix that is used frequently. Therefore, students must know how to identify and spell this common suffix. Sometimes, <-ly> can also be an adjective suffix as in: *The cowardly lion rescued the girl.*	quickly cowardly
-ous	Nouns that have the sound /ŭs/ at the end are often spelled u-s. An adjective that ends in the sound /us/ is often spelled o-u-s as suffix <-ous> is an adjective suffix. Explicit instruction in this will help this very common spelling error and have reciprocal benefits in grammar and decoding.	marvelous
-ful	A common spelling error is the spelling of suffix <-ful> with two l's as in the Germanic word <full>. Explicitly teaching the spelling of this common suffix is essential.	helpful
-ness	Words with the suffix <-ness> are sometimes spelled with an <i> when the vowel is sounded as schwa in the unstressed syllable. Also, spelling this suffix with two <s>'s is not intuitive unless explicitly taught.	kindness

-ic	Suffix <-ic> means "of, or pertaining to" and often changes a noun to an adjective. This is a very tricky suffix to spell as it is infrequent for final /k/ to be spelled with a <c>.

Final <_ic> can also be a word ending, but not a suffix, in some nouns. | base -> basic (e-rule)
hero -> heroic
democrat -> democratic

magic
critic |
| -ion | If suffix <-ion> is taught explicitly, it can help students know how to make the choice between final stable syllable <_tion or <_sion>. | ac̲tion

vi̲sion |
| -al | The <a> in suffix <-al> is often pronounced as a schwa, explaining why it is often incorrectly spelled. Teaching this suffix is useful to support not only spelling, but grammar as it can turn a verb into a noun or a noun into an adjective. | noun to adjective:
magic to magical

verb to noun
renew to renewal |
| -ward | The <ar> in suffix <-ward> is often a schwa, making the /er/ sound. Explicitly teaching this suffix will help students know how to spell <-ward> words. | toward
forward
backward
eastward |
| -age | Suffix <-age> is pronounced /ĭj/ as it is most often in an unstressed final syllable. Explicitly teaching the spelling of <-age> will inform spelling as well as have reciprocal reading comprehension benefits when students come across words with suffix <-age>. | carriage (y-rule)
courage |

Teaching Morphology-related spelling rules:
When students develop morphological awareness, it will be easier for them to understand the following spelling rules, which should be explicitly taught:
The E-Rule - When adding a suffix to a base word ending in silent <e>, drop the <e> if the suffix begins with a vowel, keep the e if the suffix begins with a consonant.
The Y-Rule - When adding a suffix to a base word ending in <y>, change the <y> to an <i> if there is a consonant before the <y>, keep the <y> if there is a vowel before the <y> or if the suffix begins with an <i>.
The Doubling I Rule - When adding a suffix that begins with a vowel to a single-syllable base word, double the final consonant if the word ends in a single vowel followed by a single consonant.
The Doubling II Rule - When adding a *vowel* suffix to a multiple syllable base word, double the final consonant if the final syllable is stressed, and if that syllable contains one vowel followed by a single consonant.

Additional Supports

Instructional Supports:
Dr. Glazer's Morpheme Magic
Megawords
Mini-Matrix Maker
William Van Cleave Vocabulary and Morphology Resources
Vocabulary Through Morphemes

Resources to Further Understanding:
IDA Fact Sheet - Morphological Awareness: One Piece of the Literacy Pie
Linguisteducatorexchange.com
Morphology Matters Professional Development - William Van Cleave
Real Spellers
Reading Big Words: Instructional Practices to Promote Multisyllabic Word Reading Fluency
Teaching Morphology to Improve Literacy
What should morphology instruction look like? - Tim Shanahan
Word Works Kingston - Structured Word Inquiry
Word Works Kingston - YouTube Channel

References:

Bowers, P. N., Kirby, J. R., & Deacon, S. H. (2010). The effects of morphological instruction on literacy skills: A systematic review of the literature. *Review of educational research*, 80(2), 144-179.