

Word Study and Orthographic Development
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Introduction

As students' reading levels increase, the English language becomes increasingly more complex and words are no longer spelled the way they sound. Students will use invented spelling for words they are exposed to verbally until provided with instruction intended to develop their orthographic knowledge, the knowledge that is stored in our memory and tells how to represent language in written form (Apel, 2011). To increase students' orthographic knowledge educators need to know what it is and its importance. One way to promote growth in the area of orthographic knowledge and development is through the use and implementation of word study through word sorts.

What is Orthographic Knowledge and Development?

Literacy includes many different components including oral language, reading, writing, and orthography. Orthography, also known as correct spelling, "... is derived from two Greek roots: *orthos*, meaning *correct*, and *graphein*, meaning *to write*" (Apel, 2011, p. 592). Students begin developing their orthographic knowledge, moving from rote memorization to their deduction of the alphabetic system all while their phonological awareness, the ability to identify and manipulate individual units of oral language, increases (Sharp, Sinatra, & Reynolds, 2008).

As students' orthographic knowledge increases, their development goes through five stages including: the emergent, letter name-alphabetic, within word pattern, syllables and affixes, and derivational stages (Bear, Invernizzi, Templeton, Johnston, & Bear, 2012). Each stage captures key understandings within words using a feature analysis to

identify the stage of development the student is in. The stages are considered “a hierarchical progression of qualitatively different ways of thinking that build progressively upon one another” (Sharp et al., 2008, p. 207). To strengthen the bond between the components of literacy, students need to progressively develop their orthographic knowledge to move through the different spelling stages. Educators need to first understand the importance of orthographic development and provide efficient differentiated instruction in phonics, spelling, and vocabulary strategies to move students forward. Word study is an effective and efficient instructional strategy that supports students’ orthographic development (Bear et al., 2012).

Why is Orthographic Development Important?

Young children use their orthographic knowledge when reading and spelling. They have awareness of the consistencies that exist within the English language. While being distinctly separate, phonological skills and orthographic skills are built upon each other, yet orthographic knowledge contributes more to reading ability than phonological skills. General orthographic knowledge is important because it contributes to reading and spelling through connections formed that link a word’s spelling with its pronunciation and meaning in memory (Conrad, Harris, & Williams, 2012). Knowing the spelling of a word makes the representation of it sturdy and accessible for fluent reading. Learning to spell requires the combination of knowledge about print, speech sounds, and meaning - these, in turn, support memory for whole words, which is used in both spelling and sight reading. “Bear et al. (2008) suggested that orthographic knowledge is an accurate

indicator of students' overall reading abilities and that spelling inventories indicated the stage of a student's operational word knowledge" (Dennis & Kroeger, 2012).

English orthography is broken down into three layers: alphabet, pattern, and meaning. These layers represent the broad principles of written English and form. The alphabetic layer represents the relationship between letters and sounds. The pattern layer overlaps the alphabetic layer and looks beyond the single letter-sound match up to view patterns such as word families (-at, cat, bat, rat) that guide reading and spelling. The last layer is meaning, where students discover morphemes, the smallest units of meaning within a language, for example -s added to the end of the word changes the meaning from singular to plural (Bear et al., 2012). In orthography, each developmental layer builds upon the other, as do the layers of development in literacy: reading, writing, and spelling. Wordy study addresses the needs of the learner in all areas of literacy using a plan that matches a student's developmental pace based on assessed spelling behaviors (Bear et al., 2012).

What is Word Study?

Word study is spelling instruction that does not focus on memorization but provides students hands-on opportunities to manipulate word features. This allows students to begin to generalize rather than focus on individual examples. Through word study students gain general knowledge of English spelling and specific knowledge of words. Actively exploring words creates an opportunity to learn the regularities, patterns, and conventions of English orthography (Bear et al., 2012) (Williams & Lundstrom, 2007). Traditional spelling programs focus on words that are grade appropriate rather

than instructionally appropriate. Word study focuses on what the student is ready for and teaches students about words, not just what is supposed to be learned at their current grade level (Reynolds, 2017).

Word study develops a “working knowledge of the orthography – knowledge that students can apply as they are reading and writing” (Williams, Phillips-Birdsong, Hufnagel, Hungler, & Lundstrom, 2009, pg. 571). Word study uses this knowledge base to strategically support students’ spelling and decoding during reading at their developmental layer. For example, students at the alphabetic layer may be matching single letters and pairs of letters to sounds, students at the pattern layer are looking beyond letter-sound correspondence to patterns that guide the grouping of letters, and students at the meaning layer are working to understand the semantic relationship across related words (Williams et al., 2009).

Within each phase, there are stages of spelling development including: emergent, letter name-alphabetic, within word pattern, syllables and affixes, and derivational relations. Stages are named to represent what the key understandings and are determined by qualitative spelling errors. Because word study is based on a student’s orthographic knowledge, implementation should be structured around the student’s spelling stage (Bear et al., 2012).

How to Implement Word Study

Similar to reading levels, orthographic knowledge can be broken down to independent, instructional, and frustration functional levels. To establish what phase and

stage a student is in, a spelling inventory must be given. The spelling inventory will provide a qualitative feature count to show what students do correctly (independent), what students use but confuse (instructional), and what is absent in students' spelling (frustration) (Bear et al., 2012). When implementing word study, homogeneous, small-group instruction is essential (Williams et al., 2009). Students benefit from differentiated small group instruction. When taught at their instructional levels in spelling, they make more progress than when material is at a level of frustration (Bear et al., 2012).

When students are grouped by instructional level, the teacher needs to decide the instructional setting, whether it is in conjunction with guided reading or separate word study lessons. According to Williams et al. (2009), integrating word study into guided reading worked well in Title 1 and first grade but not in second grade. This is because the books in first grade included examples of words that reflected the orthographic stage the students were studying. With exposure to instructionally appropriate orthographic features through direct instruction, students need hands-on opportunities to explore and begin generalizing orthographic knowledge (Williams et al., 2009). Word sorting is an activity that provides teacher-directed instruction and student-led learning where generalizations can be discovered (Bear et al., 2012).

Word Sorting: An Activity for Word Study

Word sorting is an activity where students organize words on cards based on particular shared features (Zutell, 1998). "Word sorting actively engages students in exploration and analysis as they search for similarities and recognize differences between

and among words, compare and contrast word features, and for generalizations they can apply to new words” (Williams et al., 2009, p. 577). While focusing on the social engagement, collaborative nature, and language shaping mental function in instructional based groups, Vygotsky’s theory of the *zone of proximal development* shares many of the same elements that are included in the organization of word sorting (Zutell, 1998). To best meet the needs of the learners various types of word sorts are implemented to assist in generalizing features. The three basic types of word sorts are sound, pattern, and meaning sorts and within each type there are open and closed sorts.

Sound Sorts

Because sound is the first layer of English orthography, students must be able to differentiate and identify the phonemes, the smallest unit of sound, in a word. This type of sort is most appropriate for students in the Emergent Stage, who do not have a large vocabulary (Bear et al., 2012).

Pattern Sorts

When using a pattern sort students can sort by visual patterns, word families, vowel patterns, and more advanced learners can sort by syllable juncture. Just as the spelling stages build off of each other, so do the sorts. Certain patterns go with certain sounds. Students must first know the sound to then begin thinking of alternative ways to spell that sound. When using a pattern sort, pictures cannot be used to sort, although can be used as reminders for categories of the sort (Bear et al., 2012).

Meaning Sorts

There are two major types of meaning sorts: concept sorts and spelling-meaning sorts. Students may use words, pictures, or objects to categorize by meaning (Zutell, 1998). Concept sorts, where students place words into categories based on meaning, are appropriate for all ages and stages of orthographic knowledge and are a good way to link vocabulary to students' conceptual knowledge (Bear et al., 2012). Non-reading students are able to sort pictures into categories based on comprehension. For example, if a student is given pictures of a kiwi, orange, carrot, lettuce, and broccoli the student could sort into categories by colors or by produce type. Spelling-meaning sorts focus on the connections between pronunciations, meaning units, word origins, and the combination of letters used to represent them in both reading and writing. This sort is an important component of word study programs (Zutell, 1998).

Closed Sorts

Closed sorts have teacher-decided categories that are focused on particular features within the selected words. This type of sort helps focus the students' attention and assist in word recognition (Zutell, 1998). This type of sort provides the highest level of support and explicit instruction on connections to the categories. Teachers most commonly use this method paired with the gradual release model when introducing new sorts (Bear et al., 2012). In my interview with Ms. Reynolds (2017), the literature coach at Mount View, we discussed how essential it is that I begin with closed sorts when introducing word sorts to my students because it ensures students are aware of the pattern and ensure the sort is at the student's instructional level and not too easy or difficult.

Open Sorts

In open sorts, students are not limited by predetermined categories. Students use a group of words, analyze them, decide on appropriate categories, and sort them accordingly. An open sort is can be used as an assessment tool because allows the teacher to see how the students are looking at the words and what they understand (Zutell, 1998). Open sorts are student centered and demand the highest level of independent effort and cognitive skills. Although these sorts are to be done independently without support, the teacher should still discuss the sort with the student and check for accuracy (Bear et al., 2012).

Conclusion

Orthographic knowledge is the understanding of how words in the English language are spelled. Orthographic development is an important component to literacy, meaning it should be taught explicitly in order for children's reading, writing, and spelling to develop progressively. Word study provides differentiated instruction based on a student's level of spelling and focuses on the understanding of words rather than the memorization. This is done using word sorts, which allow students to actively explore words by identifying the regularities, patterns, and conventions of English orthography (Bear et al., 2012).

Students will progress through the spelling stages with instruction based on orthographic knowledge at each student's developmental stage.

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