



Applying Best Practices For Effective Vocabulary Instruction



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In 2016, VocabularySpellingCity requested McREL International's assistance in writing a white paper articulating the theory of change and related research underlying how vocabulary instruction should be conducted to improve reading comprehension and academic success.

For McREL researchers, this provided a unique opportunity to see how components of the program aligned with best practices evident in the research.

Supporting the development of this white paper provided our research team with a lens through which we can now more clearly view the challenges schools face in implementing a research-based program and how a program, such as VocabularySpellingCity, can be an instrument for structuring a school's vocabulary program.

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Abstract

A great deal of research converges on vocabulary knowledge as a key lever for overall academic achievement. Research says: "Improve vocabulary, comprehension improves too." But many classrooms seem trapped by their weekly schedule, which does not provide opportunities for spaced independent practice with

vocabulary to improve retention. Vocabulary-building for those in need is best achieved by explicit instruction. Research identifies the critical factors for successful vocabulary instruction.

Research on Vocabulary Building

This paper presents current research findings about the nature of vocabulary development, discusses the corresponding implications for vocabulary instruction, and illustrates how productivity tools such as **VocabularySpellingCity** can empower teachers to effectively meet the challenge of vocabulary instruction for diverse learners. Research continues to point to effective vocabulary instruction as a key element. Yet effective vocabulary instruction continues to elude many teachers. The purpose of this paper is to clarify the importance and the techniques of effective vocabulary building.

After decades of research efforts aimed at identifying the factors that are most critical to the literacy and overall academic success of students, the key theme of vocabulary knowledge has risen to the top (e.g. Anderson & Freebody, 1981; Baumann, Kame'enui, & Ash, 2003). Many studies have identified a strong link between **vocabulary knowledge** and reading comprehension (Beck, McKeown, & Kuncan, 2013; Freebody & Anderson, 1983; Pearson, Hiebert, & Kamil, 2007). The National Research Council (1998) reported that in fourth grade, 70 percent of the reading comprehension problem is students' lack of vocabulary. Blachowicz, Fisher, Ogle and Watts-Taffe's (2006) review of the research found that this connection can be partially explained by how vocabulary knowledge facilitates inference making, and can be perceived as a broad verbal ability that is

fundamental to all learning.

Direct teaching of vocabulary has been shown to increase students' reading comprehension of new content by 12 percentile points (Stahl & Fairbanks, 1986). Further, multiple exposures to target words is necessary if vocabulary instruction is to have a measureable impact on vocabulary attainment and reading comprehension (Beck, Perfetti, and McKeown, 1982; Nagy, 1988; Stahl & Fairbanks, 1986).

In addition to confirming the link between vocabulary knowledge and other areas of academic success, there are multiple approaches to **vocabulary instruction** that draw upon the evidence from general research in instructional design. For example, Marzano's (2009) process of teaching new words focuses on the following six steps: 1) Explain in a student-friendly description; 2) Have the student restate it in their own words; 3) Ask the student to show with a picture; 4) Allow the student to discuss the word; 5) Engage the student to refine and reflect by returning to where they wrote it down; and 6) Allow the student to apply the word using games.

Similar to this six-step process, Beck, McKeown, and Kuncan's (2013) Say, Define, Example, and Ask approach can also be used to address those "Tier 2" words, or words that are generally useful and relate to other words students are learning.

The Current State of Vocabulary Development

Vocabulary is multi-faceted, and can be learned.

Implications: Explicit vocabulary instruction must be prioritized, words must be carefully selected, and instructional best practices must be used.

Studies have illustrated that vocabulary can be developed

regardless of the academic background of students, and that “vocabulary is not innate, and can be acquired by everybody” (O’Connor, 2016). Research illustrates that direct vocabulary instruction works when it is a combination of explicit instruction and proper word choice.

Explicit instruction is instruction that is systematic, direct, engaging, and success-oriented (Archer and Hughes, 2011).

Proper word choice ensures that students are exposed to words that lead to academic success. Explicit vocabulary instruction pedagogy identifies three categories of words that readers encounter in text (Beck, McKeown, & Kucan, 2013). These three categories are not hierarchical in nature, but all are necessary to vocabulary acquisition and comprehension:

- words of everyday speech (including high-frequency and Tier 1 words),
- general academic words (words that are likely to be found more often in written text than in speech, Tier 2 words),
- domain-specific words (words often found in informational text and are key to understanding a new concept, Tier 3 words).

The Teacher’s Role in Direct Vocabulary Instruction

Word selection is the foundation for effective vocabulary building.

Implications: Words that are essential to understanding the text and used across content are worth teaching.

Because of the vast number of words that exist in the English language, teachers must prioritize which words should be taught. **Word selection** (Baumann & Graves, 2010) is an



important component of developing student vocabulary. Words can be found in reading selections, units of study, or other parts of the curriculum. While it may be a common practice to select words for instruction that are the “biggest words,” teachers and curriculum writers should select words from the text that are critical to the students’ reading comprehension overall. For example, consider the sentence, “Maria’s life was in jeopardy when she began to slip into the crevasse.” While teachers might select “crevasse” as the best vocabulary word to explicitly teach, a better word might be “jeopardy,” because it can be used across curriculum. Vocabulary that is used regularly in the classroom is another good guide as to what vocabulary should be studied. Vocabulary instruction based on the curriculum and students’ text is most effective and efficient.

Marzano’s (2004) work also illustrates the importance of **explicit vocabulary instruction using best practices**, demonstrating how vocabulary knowledge develops gradually. By thinking of vocabulary instruction as a process instead of a singular event, teachers have the ability to create distinctive learning opportunities in the classroom on an ongoing basis to ensure mastery

over time. To accomplish this, Beck, McKeown, and Kucan (2013) found that teachers should directly teach between 400-700 words per year – impossible without the prioritization of vocabulary instruction. Additionally, teachers must differentiate word lists to meet the needs of their students, regardless of students’ individual aptitude, cultural, and socioeconomic background.

Teachers must incorporate **best practices** in the delivery of lessons aimed at vocabulary building. Best practices such as clearly communicating objectives, providing feedback, facilitating cooperative games, monitoring performance based on results of student- and teacher-controlled formative assessments, and following through with an at-home reinforcement and/or homework (Brown, Roediger III, & McDaniel, 2014; Marzano, Pickering, & Pollock, 2001), must also find their way into the vocabulary building curriculum in a fashion similar to other content areas. Applied to vocabulary instruction, frequently assigned support via an audio device, where students hear a word, its syllables, sounds, definition, and its application, can lead to long-lasting retention of new words. Once the new words have been learned, reinforcement via

additional learning activities **at home** should provide the appropriate level of needed practice to cement word comprehension and long-term application.

Multiple Exposures, Multiple Modalities, and Spaced Practice

Effective vocabulary development is a result of **explicit instruction** and **daily practice**. It must be prioritized, and incorporate instructional **best practices**.

Students need to encounter a single word multiple times before they understand it.

Implications: Vocabulary instruction must include spaced independent practice with multiple exposures using multiple modalities.

One of the most widely-held assumptions about the development of vocabulary is that can be learned by osmosis through the reading of a vast number of books over time. However, the evidence shows that while higher achieving students may benefit from large exposure to new words via the Matthew Effect (Penno, Wilkinson, & Moore, 2002); (Brown, Roediger III & McDaniel, 2014; McKeown, Beck, Omanson, & Pople, 1985 in University of Michigan, 2016; Willingham, 2002), this is a practice that cannot be achieved by simply reading books where keywords may not be repeated, context clues may not be provided, and background knowledge may not be sufficient. **Spaced independent practice** is essential to long-term retention of knowledge. This provides opportunities for students to repeat, restate, refine, and reflect on their learning, not only through multiple exposures, but also through different learning modalities.

Furthermore, in an attempt to identify how student repetition and practice times should be allocated, cognitive scientists have identified

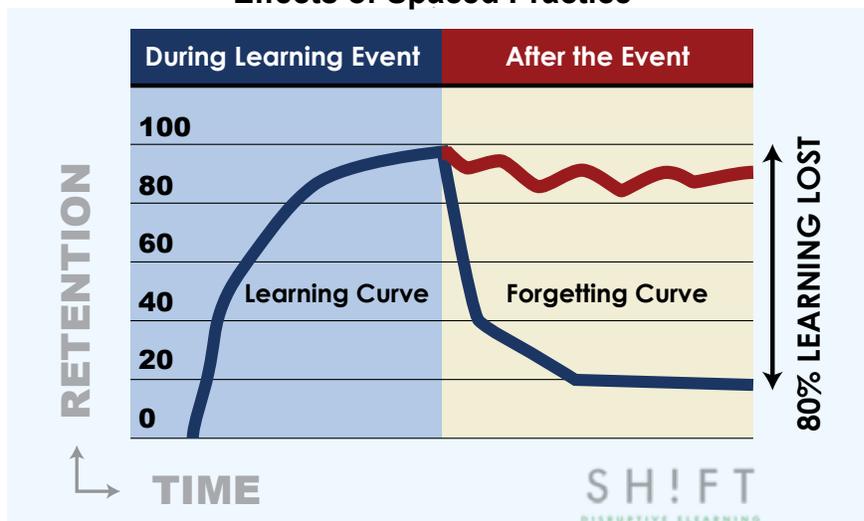
Teachers should directly teach between 400-700 words per year - impossible without the prioritization of vocabulary instruction. Additionally, teachers must differentiate word lists to meet the needs of their students.

that study time distributed over **multiple sessions in shorter chunks** contributes to greater long term memory and understanding than using less frequent but longer sessions, a phenomenon referred to as the “spacing effect” (Brown, Roediger III, & McDaniel, 2014; Willingham, 2002). This is illustrated in the chart on this page – where the top trend line represents the learning curve over time using spaced practice, and the bottom trend line represents the learning curve over time after a single instance of learning. This finding is of significant importance considering the current structure of most classrooms today. While teachers experience pressure

to cover a vast amount of information each week, and therefore get locked into a “lesson per week” routine, the conclusions from Willingham’s work reveal the insufficiency of that single learning event, and the importance of using multiple sessions in shorter chunks, with spaced independent practice.

Not only should students have **multiple exposures**, researchers have identified that those exposures must tap into **multiple modalities**. To do this, Stahl (1999) found that teachers must include definitional, contextual, and usage information when explicitly teaching words. After reading new words, students must be able to access the phonic and phonological processes that give those words meaning, which can be addressed through **hearing and speaking** new words in addition to reading them (University of Michigan, 2016). Marzano (2004) reinforced this finding and asserted that as students simultaneously **hear phonemes while seeing corresponding letters in the new words**, the brain makes deeper connections leading to retention. And Rasinski, Rupley, and Nichols (2008) found that students benefited from seeing and hearing the **syllabication** of words in order

Effects of Spaced Practice



to identify word parts. Finally, it has been noted that once students visit a word 12 times or more, they are better able to comprehend it (McKeown, Beck, Omanson, & Pople, 1985), and then integrate it into their writing, speech, and play, where it can now become a part of their personal word bank. Blachowicz and Fisher's (2004) work corroborates this notion, that **"playing with words"** enables students to develop a metacognitive understanding of how words work. When learning words is fun, students become interested in words and see them as objects that they can use and examine" (p. 67–68).

These practices are in stark contrast to how vocabulary instruction is often implemented in many classrooms. While traditional approaches to direct instruction consist of copying the word list, looking up definitions from the dictionary or glossary, and taking a quiz at the end of the week, these practices are not likely to support students in understanding and applying those words weeks or months down the road (Pennington, 2009). In light of the ground-breaking findings, the implications for practice are clear: Repeated vocabulary instruction should be systematically spaced out over time, and tap into multiple learning modalities. As these practices are seldom performed, instructional innovation in this area is needed to accomplish these rigorous aims.

Supplemental resources and methods can better address the rigorous demands of vocabulary development.

Implication: Teachers must supplement their existing curricular materials to transform the vocabulary development of their students.

Traditional texts and curriculum focus on instruction and initial exercises. Although developers

A majority of students require repetition of a word spaced out over longer periods of time in order for words to move into long term memory.

of traditional texts and curriculum guides do provide direct instruction, and word selection, they fail to incorporate practices that offer **repeated exposures using multiple modalities, and spaced practice**. Also, the enormous pressure and pace of instruction in schools all too often leads to weekly word lists which might not meet the needs of every student. Under the traditional instructional model, teachers do not have enough time to provide multiple sufficient encounters with words, something researchers recommend if vocabulary instruction is going to have a positive impact on vocabulary acquisition and reading comprehension.

Thus, teachers do not have the necessary resources for an effective vocabulary building program, and still struggle to find the time to do the following:

- Learn how engaging activities are incorporated into the vocabulary instructional sequences and can be used within content areas;
- Spend the time required to modify their lesson plan to incorporate the principles of **direct instruction, strategic word selection, spaced practice, and multiple exposures using multiple modalities;**
- Design and manage a routine that introduces **new words**, review explicitly **taught words not yet mastered, and revisit words**

previously taught, whether mastered or not;

- Keep track of **individual student understanding** and performance on each of the key words, including evaluating and tracking learning over time;
- Provide multiple exposures, including practice in coordination with the curriculum, and repetition of the targeted words;
- Present audio and visual support and opportunities for students to refine, restate, and reflect on their vocabulary words.

For teachers who still struggle to find the time to integrate these methods into their existing lessons, educational productivity tools have emerged that alleviate the hassle and time commitment needed to implement these best practices – a relief for many teachers and school districts who have already implemented them and are seeing desirable results. An example of such a tool used in schools around the country and the world is **VocabularySpellingCity**, which enables teachers to implement a vocabulary initiative that positively impacts student achievement.

How VocabularySpellingCity Leverages Best Practices to Accelerate Vocabulary Development

VocabularySpellingCity is a productivity tool for teachers that delivers an effective and efficient method for vocabulary practice in any classroom. The website and app for mobile devices makes this platform flexible and accessible for all teachers and students in and out of school.

Teachers can use **VocabularySpellingCity** as a supplement to their curriculum and vocabulary instruction. Initial vocabulary instruction is determined and delivered by the teacher. Then

independent practice is assigned and distributed to individual students using **VocabularySpellingCity**, which helps fill the void in vocabulary practice.

VocabularySpellingCity enables teachers to deliver the spaced practice of vocabulary words with context-rich sentences, engaging, diverse activities, and audio support that research indicates will result in high rates of retention.

Teachers can import any of the thousands of vocabulary lists that **VocabularySpellingCity** has pre-loaded into their system ranging from popular reading programs and domain-specific areas of study, to grade-level appropriate academic words. **VocabularySpellingCity** also offers teachers the ability to create their own word lists. Words, definitions and sentences are editable, allowing teachers the freedom to personalize the content. In order to maximize vocabulary development, teachers can ensure a close connection between the material being covered in class and the students' word study practice. When new words are linked to classroom instruction, it makes it easier for students to understand the content, and they are more likely to use these vocabulary words when speaking and writing.

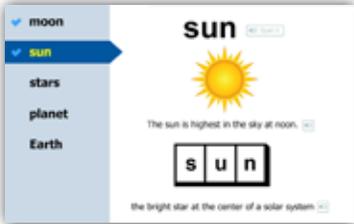
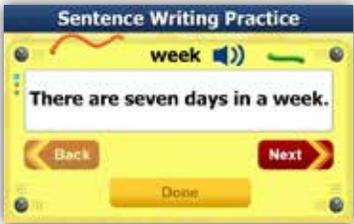
VocabularySpellingCity automates the delivery of word study learning activities. By controlling which games students play during their assignments, teachers can differentiate instruction to best meet students' needs. Since the games are motivating and engaging, students enjoy practicing their words and even replaying activities when they have completed their assigned tasks. An important feature of **VocabularySpellingCity** is the immediate feedback to students and teachers after assessments and games. This information is used by the teacher to drive future instruction and by students to evaluate their

performance and make adjustments to their learning.

Students benefit from playing with vocabulary words in a non-threatening atmosphere; **VocabularySpellingCity** provides that opportunity. They learn to succeed even when they stumble. Students have control over their word study with **VocabularySpellingCity's** student-created word lists.

Conclusion

"Playing with words enables students to develop a metacognitive understanding of how words work. When learning words is fun, students become interested in words and see them as objects that they can use and examine" (Blachowicz & Fisher, 2004). When teachers instill in students an appreciation for words and provide meaningful practice that motivates them to build their vocabularies, they provide their students with the key to a bright future. **VocabularySpellingCity** can empower teachers to address the best practices to revolutionize how students interact with words, and increase their opportunities for academic success for a lifetime.

Best Practice	How VocabularySpellingCity Supports the Practice	
Daily Practice	VocabularySpellingCity is a web and app-based productivity tool that students access directly for supplemental practice, whether at school, home, or on the go via computer, Chromebook, tablet, or smartphone. User-based, unlimited access enables teachers to assign student tasks that are tailored to specific word lists and tracked over time, with records of students' activities and progress.	
Strategic Word Selection	Strategic word selection is imperative if teachers are to differentiate word lists. VocabularySpellingCity has leveled lists that support learning high-frequency words and, general academic as well as domain-specific vocabulary. When words are selected with students' needs in mind, students can systematically increase their vocabulary which impacts their academic success.	
Spaced Practice	<p>Teachers are challenged with managing a cycle in which students practice, review, and revisit vocabulary words. Using VocabularySpellingCity as a productivity tool allows teachers to more easily manage the instructional cycle and allows students to practice their vocabulary words beyond this cycle, leading to better vocabulary retention.</p> 	
Multiple Modalities	<p>VocabularySpellingCity's learning activities deliver content through audio and visual modalities.</p> 	<p>Additionally, VocabularySpellingCity's learning activities provide practice with both open-ended and closed responses.</p> 
Integrated Practice	VocabularySpellingCity allows teachers to integrate meaningful practice into their existing curriculum. Whether importing a ready-made list or creating a new list, it is easy to select or edit a word's definition, part of speech, and sentence.	
Audio Support and Immediate Feedback	Students benefit from both audio support and immediate feedback, while using VocabularySpellingCity . When students hear a word, its syllables, its sounds, its definition and it being used in context, word knowledge accelerates. Immediate feedback corrects students' thinking, guides their thought process, and celebrates success.	
Students Responsible for Own Learning through Formative Assessments	<p>Students who learn from mistakes take ownership of their learning. Holding students responsible for their results becomes an exercise in metacognition. VocabularySpellingCity provides opportunities for students to receive immediate feedback during practice and after assessments. The immediacy of this feedback allows students to take responsibility for their own learning and take part in making their own instructional decisions.</p> <p>These formative assessments, whether from a practice test or a learning activity, are used by teachers to drive instruction and provide appropriate practice, and by students for self-evaluation and additional practice.</p>	

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VocabularySpellingCity® is a K-12 game-based productivity tool that engages students with integrated word study practice, supporting the teacher. Powerful interactive activities engage students while supplementing instruction with your current reading program.

To learn more, please visit:

[VocabularySpellingCity.com/vocabulary-study.html](https://www.vocabularyspellingcity.com/vocabulary-study.html)

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