Brief Report

THE DEVELOPMENT OF ACADEMIC VOCABULARY IN K-12 ELLS THROUGH EXPLICIT, SYSTEMATIC PEDAGOGY: A MULTIFACETED APPROACH

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Academic vocabulary plays a critical role in the scholastic development and overall academic success of English language learners (ELLs). This paper outlines a pedagogical framework for the development of such vocabulary, defining the concept, while detailing its importance in classrooms comprising L2 learners. In addition, it describes the complexities involved in word knowledge (i.e., What does it truly mean to know a word?) as it explores the critical elements of academic vocabulary instruction (e.g., key word selection). This paper highlights pedagogical foci (e.g., construction of non-linguistic representations) necessary for effective vocabulary development. Finally, this paper outlines a five-step pedagogical approach that can be incorporated to maximize the effectiveness of vocabulary-centered pedagogy, as well as particular instructional tasks to foster student understanding.

Keywords: academic vocabulary, assessment of academic vocabulary, Common Core State Standards, direct vocabulary instruction, indirect vocabulary exposure, second language learners, Tier 1, 2, and 3 vocabulary

Extensive research (Bauman & Graves, 2010; Carpenter, 2010; McKeown, Beck, & Sandora, 2012) has highlighted the influence of academic vocabulary in the overall scholastic development of monolingual English K–12 learners. Recently, the importance of such vocabulary has been heightened by the incorporation of and focus on the Common Core State Standards (CCSS). Vocabulary instruction within the CCSS is a critical aspect of standards-based curriculum alignment, serving as an essential component of students' academic success.

Less research, however, has been devoted to the academic vocabulary development of K–12 English language learners (ELLs) relative to those students who speak English fluently (Spies & Dema, 2013)—that is, fewer studies have looked at the teaching and learning processes involved in ELLs' acquisition of academic vocabulary. The limitations in this area become more pronounced when considering the exceptional learning needs of ELLs, as well as the level of language competency associated with mastery of and development on the CCSS.

The aim of this report is to enhance our understanding of the notion of academic vocabulary (as it pertains, in particular, to the ELL K–12 community), with a focus on the promotion of highly effective, empirically based pedagogical practices. To do so, it highlights the essential components of the concept, emphasizing the specific learning and teaching needs of K–12 stakeholders (i.e., ELL students and teachers). In addition, the key elements of effective academic vocabulary instruction are discussed, as well as the specific components of lesson implementation. This report also highlights pedagogical approaches (e.g., a literacy-rich classroom environment) that incorporate and build upon recent methodological considerations in the field.

Academic Vocabulary: An Overview

Academic vocabulary (i.e., the lexicon, concepts, and processes related to the content knowledge of a particular academic discipline) plays a critical role in the scholastic development of a wide range of learners. Within the content area of English Language Arts, examples include *inference, synthesize, elaboration,* and *persuasive writing*. Such vocabulary allows students to comprehend and produce the essential lexicon of the content area in addition to the functional phrases and words that indicate cause and effort, description, sequencing, and comparison (Herrmann, n.d.). Conceptually, such vocabulary is more complex than the high-frequency language one may learn through speaking, and thus may present greater learning challenges to students as well as more profound instructional challenges to teachers (The Aspen Institute, 2012).

Lexical Knowledge

Effective vocabulary learning is an iterative, meaningful, and memorable experience (Carr & Wixson, 1986). Comprehension of a particular word is a multidimensional, developmental process that extends beyond one's knowledge of a word's dictionary meaning (Johnson & Pearson, 1984; Scott & Nagy, 1997). It evolves as learners have repeated contact with particular words over time in various contexts (Nagy & Scott, 2000), and is continually transformed as students explore the relationship between specific words and their own personal experiences (Silver, Strong, & Perini, 2001).

Given such complexity, learners' understanding of a particular word may best be viewed not as a finite dichotomy (i.e., "I know the word"/"I don't know the word"), but rather as existing on a gradated continuum. From such a perspective, one's knowledge of a word might range from no familiarity/no control (i.e., the students have not encountered the word previously), to general familiarity/passive control (i.e., the students may be able to decode the word and provide a basic definition), to lexical dexterity/active control (i.e., learners can use the word accurately and fluently in speech and writing while situating it in connection to other words) (Bravo & Cervetti, 2008; Kinsella, 2005). To thoroughly and accurately evaluate one's knowledge of academic vocabulary, the following word characteristics should be considered: meaning(s) (i.e., polysemy), pronunciation, spelling, lexical category, frequency, collocation, connotations, derivations, word families, synonyms/antonyms, register, and idiomatic usage (Kinsella, 2005). K–12 ELLs require this degree of explicit, comprehensive vocabulary instruction throughout the content areas in order to facilitate their comprehension of them.

K-12 ELLs and Academic Vocabulary

Research (Alexander & Jetton, 2000; Nagy, 2005) has demonstrated a strong and predictive correlation between K–12 scholastic performance and academic vocabulary knowledge across grade levels. Limited knowledge of academic vocabulary has also been associated with the chasm in academic success between ELLs and their English speaking classmates (Chall, 1996; Hart & Risley, 1995; Hiebert & Lubliner, 2008). This gap often widens as the literacy demands increase over the course of a scholastic career. Students frequently encounter the challenge of acquiring more complex core content with specialized vocabulary; at the same time, they need to develop their basic interpersonal communication skills (BICS). Though ELLs may become conversant in English in a relatively short period of time, it may take considerably longer (i.e., four to 10 years) for them to acquire the academic language needed to succeed academically (e.g., to meet the demands of the CCSS) (The Meadows Center, 2010).

As discussed below, these language demands can be met—in part—through vocabulary instruction that is intensive and systematic, and that acknowledges and embraces the students' cultural and linguistic diversity. Of particular note is that research (August & Shanahan, 2006; Gersten & Baker, 2000) suggesting pedagogical strategies (focusing on academic vocabulary) effective for instructing native speakers of English can also be incorporated to serve the learning needs of ELLs just as effectively. Thus, the

instructional approaches highlighted in this paper have mutual utility in the monolingual English (i.e., non-ELL) classroom.

Incorporating Academic Word Lists

The selection of appropriate academic vocabulary may be aided by the incorporation of academic word lists. Such lists can allow for the establishment of vocabulary-focused learning goals as well as the assessment of vocabulary knowledge and growth. In addition, these lists may help instructors analyze the difficulty and richness of texts and construct and adapt reading materials, while also helping them determine the vocabulary-focused components of academic curricula. Coxhead's (2000) seminal Academic Word List (AWL) contains 570 semantic fields (divided into 10 sublists), selected because of the frequency in which they appear in a wide range of academic texts. The list includes words that are used in everyday language (e.g., *area, energy, issue*), as well as words that are more academic (e.g., *qualitative, hierarchy, equate*).

Explicit (Direct) Academic Vocabulary Instruction

As stated, knowledge of academic vocabulary is a significant and constant predictor of students' overall academic success (Yovanoff, Duesbery, Alonzo, & Tindal, 2005), as well as their success across specific content domains (Saville-Troike, 1984). Such knowledge allows learners to preview material appropriately, construct background knowledge, and apply vocabulary in the subject area (Marzano & Pickering, 2005). This knowledge also fosters phonological awareness (Nagy, 2005) and reading comprehension (Beck, Perfetti, & McKeown, 1982).

Indirect vocabulary exposure serves an important role in students' learning of new vocabulary as it frequently fosters their recognition of new words, as well as developing their autonomy and general language competence (Maley, 2009). Such exposure can occur through extensive (i.e., wide) reading (e.g., sustained silent reading), read-alouds conducted by the teacher, as well as oral discourse with a variety of interlocutors (e.g., instructors).

This exposure alone, however, may not be sufficient for learners to develop a full and flexible command of the new vocabulary for speaking and/or writing purposes (Kinsella, 2005; Paribakht, & Wesche, 1997). Therefore, in order for learners' vocabulary development to be optimized, researchers (Beck & McKeown, 2007; Beck, McKeown, & Kucan, 2002; Marzano, 2004) suggest that there should be a structured, systematic, and explicit (direct) instructional focus on specific, high-leverage words—words that are transferable across the content and other contexts (e.g., social), as well as an emphasis on word-learning strategies. Through direct (explicit) instruction, vocabulary is continually taught, learned, and recycled, permitting learners to discover and produce new words in a variety of contexts and across modalities (Berkeley Unified School District, n.d.). Augmenting the degree of explicit vocabulary instruction frequently results in an increase in the number of word meanings acquired by students (Beck & McKeown, 2007; Biemiller & Boote, 2006), while also enhancing learners' overall comprehension of texts (Stahl, 1999).

Key Elements of Academic Vocabulary Instruction

As has been shown, academic vocabulary is an important factor in learners' academic development. Regardless of its importance, instruction focusing on academic vocabulary frequently lacks the structure and systemization necessary to optimize scholastic success, thus exacerbating the achievement gap among learners (The Aspen Institute, 2012). It is widely accepted among researchers that the difference in students' vocabulary levels is a key factor in disparities in academic achievement, but that vocabulary instruction has been neither frequent nor systematic in most schools (Appendix A of Common Core State Standards for ELA).

Unfortunately, many of the instructional practices teachers often implement (e.g., copying from a glossary or dictionary, memorizing definitions, multiple choice exercises) may have limited pedagogical utility (Kinsella, 2005) due to their emphasis on rote and/or decontextualized learning. These practices often fail to engage the learners in higher order thinking, and do not require a display of productive knowledge.

Given the pedagogical limitations (e.g., rote memorization of vocabulary words) that often pervade the ELL K–12 classroom, there is a critical need for educators to place greater instructional emphasis on the implementation of empirically tested, theoretically sound vocabulary instruction, with the goal of enhancing the overall breadth and depth of students' vocabulary knowledge (Kinsella, 2005). The elements described below have been based, in part, on effective first language instructional approaches. Among the most seminal instructional elements are the two pedagogical activities described below.

Providing multiple exposures to key words. Research (The Meadows Center, 2010) has suggested that in order to effectively foster learners' depth of understanding of key academic vocabulary, multiple exposures to such words is necessary. Teachers may need to provide learners with between six and 15 exposures of a new vocabulary word for students to acquire an accurate and fluent understanding. Repeated opportunities for active engagement with the vocabulary will augment learners' knowledge of the word's meaning(s), pronunciation, derivations, and collocations (Nation, 2001). In order to enhance the likelihood that students will store the vocabulary in their long-term memory, the word(s) should be reviewed at regular periods following initial exposure (i.e., spaced repetition) (Stahl, 2009).

Selecting words that are essential for comprehension. An additional element of academic vocabulary instruction involves the selection and instruction of the words that are most essential for overall text comprehension. The most critical vocabulary words should be examined in depth, allowing learners the opportunity to explore, refine, and revise their knowledge of principal concepts and ideas, thus enhancing their ability to understand a given text more profoundly (Kinsella, 2005). As there are far too many important words to teach explicitly, educators must be strategic when considering which words they will teach for mastery, which they will teach for exposure, and which they will not teach explicitly (Kinsella, 2005).

- In order for K–12 teachers to make well-informed, pedagogically sound decisions involving the selection of the most critical vocabulary words (i.e., those words to teach in detail), the three categories (tiers) of vocabulary words should be considered. Tiered vocabulary is an organizational framework that is used to classify words, while providing insights into the learning and instructional challenges that words in each classification entail. Such classifications are generally based upon the qualities and descriptive values of words, as well as the stages at which children learn words. Tier 1 words, representing the most common and basic vocabulary (e.g., *run*, *happy, store*), serve important roles in everyday discourse. Initially, children gain exposure to Tier 1 vocabulary words from oral conversation. Conversely, Tier 3 words (e.g., *isotype, amino acid,* and *feudalism*) are those that are highly specialized and specific to particular disciplines and/or domains. These low-frequency words are used to detail content knowledge and are important in order to comprehend a new concept within a particular text (Berkeley Unified School District, n.d.). They usually need to be explicitly taught and embedded within the system of concepts to be developed (Stahl & Nagy, 2006). Between the high-frequency Tier 1 words and the subject-specific Tier 3 words are the Tier 2 words (i.e., general academic words). These are words that often have multiple meanings (e.g., *experiment, equation, and liberal*) and that may appear across content areas (e.g., science, social studies) and in a variety of texts (i.e., informational, technical, and literary). Due to their highly generalizable nature, these words maintain a very important role in vocabulary instruction, and as such are the frequent focus of academic vocabulary lessons (The Aspen Institute, 2012).

Criteria for Choosing Which Words to Teach

In selecting the words to teach, K–12 educators should consider the following questions/criteria: (a) Will an in-depth understanding of the word permit learners to comprehend the text more profoundly and/or more clearly?; (b) Does the word affect the meaning of the narrative considerably (e.g., Does the word affect the storyline or point of view)?; (c) Is the general utility of the word strong (i.e., are the learners likely to encounter the word in other contexts/texts)?; (d) Is the word part of a high-usage semantic word family (e.g., human, humanist, humanist)?; (e) Is the word connected to other experiences, ideas, or words that the learners have been studying and/or that the students have previously encountered?; (f) Is the word a more sophisticated or precise label for concepts already known by students?; and (g) What is the instructional potential of the word—that is, can the word be taught in a variety of ways, providing learners with ample opportunities to construct rich representations of the word and/or links to other words and notions? (Beck, 2002).

Assessing Student Vocabulary Development

In order to ascertain learners' vocabulary development and to inform pedagogical practices, a variety of formative and summative assessments should be incorporated into the instructional routine. Frequently, vocabulary is assessed subsequent to instruction through multiple-choice, matching, and/or fill-in-the-blank tasks, ascertaining students' rote knowledge of definitions ("What does *console* mean?"). While generally efficient to construct, administer, and/or score, these methods of vocabulary assessment—in their traditional forms—tend to be shallow metrics of actual word knowledge, failing to fully assess learners' depth of vocabulary knowledge (Stahl & Bravo, 2010). In addition, other, more traditional activities (e.g., memorizing definitions; copying definitions from the dictionary) may not fully involve the students in the active construction of meaning (e.g., connecting the new concept/meaning to students' existing knowledge base), thus limiting their pedagogical effectiveness.

The overall effectiveness of the various assessment modes may be enhanced, however, by providing learners with opportunities to demonstrate a more critical and profound understanding of a word in a variety of assessment contexts (e.g., context analyses, examples/non-examples). Examples of such items include: (a) "After the medals were given out, Jessica called to *console* Susan. How do you think Susan did in the competition?"; (b) "In a sentence or two, write an example of the word *console*."; (c) "Describe an experience when someone *consoled* you."; and (d) "Is the following sentence an example or non-example of the word *console*?" (Stahl & Bravo, 2010).

In addition, the Vocabulary Knowledge Scale (VKS), a self-report tool, may be helpful in assessing and/or quantifying students' incremental, longitudinal word knowledge gains (i.e., pre- and post-instruction) (Stahl & Bravo, 2010). The VKS examines students' self-reported understanding of the target word in combination with a constructed response in which they demonstrate their knowledge of the word. The five distinct categories of the VKS and scoring guide are:

1. "I don't remember having seen this word before." (1 point)
2. "I have seen this word before, but I don't think I know what it means." (2 points)
3. "I have seen this word before, and I think it means _____." (3 points)
4. "I know this word. It means _____." (4 points)
5. "This word means _____. An example of this word in a sentence is _____." (5 points)

Research (Bruton, 2009; Wesche & Paribakht, 1996) has suggested that the correlation between the learners' self-report of word knowledge and the actual score for demonstrated knowledge of the word is high.

Creating a Literacy-Rich Classroom

In order to augment students' depth and breadth of academic vocabulary, the K–12 classroom environment should be one that is literacy rich. In such an environment, the learners are continually and deliberatively exposed to high-quality verbal and visual (e.g., written) input from a variety of sources. Among the features of a literacy-rich, K–12 classroom are word walls, a diverse classroom library, anchor charts, and literacy workstations.

Steps in Effective Vocabulary Instruction

In order to optimize the effectiveness of vocabulary-focused instruction, teachers must integrate explicit tasks that are systematic and structured. Through such an approach, students' word knowledge is gradually shaped as a result of multiple, contextualized exposures to the word(s), leading to an ability to use the vocabulary creatively and generatively (Nation, 2001; Stahl & Nagy, 2006). Furthermore, learners' capacities to store the meanings of words in their long-term memories are enhanced, as well as their abilities to use the vocabulary to construct meaning, understand texts, and comprehend the subject matter (McREL, n.d.).

The following sections highlight a five-step pedagogical approach, detailing the longitudinal development of academic vocabulary. The first three steps (describe, restate, and construct a non-linguistic representation) emphasize the introduction of the word, with a focus on the word *meaning(s)*. The subsequent two steps (deepen vocabulary understanding, revise/refine with peers) reinforce word knowledge, emphasizing learners' depth of knowledge (Marzano, 2004).

Describe

A principal goal of this initial step is to build students' general understanding of the new word(s) through a scaffolded series of descriptions and examples. To accomplish this goal, it is imperative that educators extend their pedagogical practices beyond a written or oral explanation of a word's meaning. Among the pedagogical interventions that may be effective at this stage are: (a) ascertaining students' understanding of the word (i.e., asking learners what they know about the word and discussing the context for students' prior exposure to it); (b) pronouncing the word several times in order to foster an auditory imprint (Kinsella, 2005); (c) contextualizing the word within a meaningful/interesting story; (d) expressing the meaning of the word through the use of student-friendly language; (e) connecting the word to current events; (f) incorporating online/video images as stimuli; (g) writing a brief explanation of the word on the board; (h) focusing upon syllabication, pronunciation, and/or spelling; and (i) incorporating visuals that illustrate the word's meaning (Marzano, 2004). In addition, through repeated exposure to and interaction with the highlighted word, students will have the opportunity to state the word at different times during these lessons. Doing so develops muscle memory, enhancing the likelihood that learners will have an accurate auditory imprint of the word while increasing the chances that they will be able to decode it (and that it becomes a sight word for them) (Kinsella, 2005). ELLs may engage in these activities in their L1. The degree to which the L1 is used should be dependent, in part, on the language needs and levels of the students as well as the particular task objectives.

Restate

In the second step, learners use their own words to restate and write the previously reviewed explanations, descriptions, and/or examples (Marzano, 2004). Such a focus augments learners' capacities to personalize the information, while creating connections between the newly described words and their own personal experiences. Sentence stems (e.g., "It is like_____"; "It is when you_____"; and "You use it when_____") provide a scaffold for learners to internalize academic language, while serving as a model for correct grammar and sentence structure. During this step, it is particularly important for teachers to

monitor students' output closely, ascertaining their level of understanding, while addressing any lack of clarity appropriately.

Construct a Non-Linguistic Representation

In the third step, the learners create a non-linguistic representation of the word. These representations may include a picture, graphic, symbol, semantic word webs, graphic organizers, mental maps, or kinesthetic representations. Such engagement will help learners enhance their knowledge of the word by creating a strong mental model of it (Marzano, 2004), while also fostering learners' understanding of concepts that may be more abstract. Particular visual representations (e.g., graphic organizers, semantic word webs, and/or concept webs) allow students to conceptually investigate their knowledge of a word by connecting it with other phrases or words related to the principal word; in addition, these visual representations can help learners clarify vocabulary and classify it into categories (e.g., parts of speech). Among the categories that may be highlighted in a web/map include meanings, context clues, characteristics, student definitions, examples, and personal connections (Berkeley Unified School District, n.d.; see Figure 1).

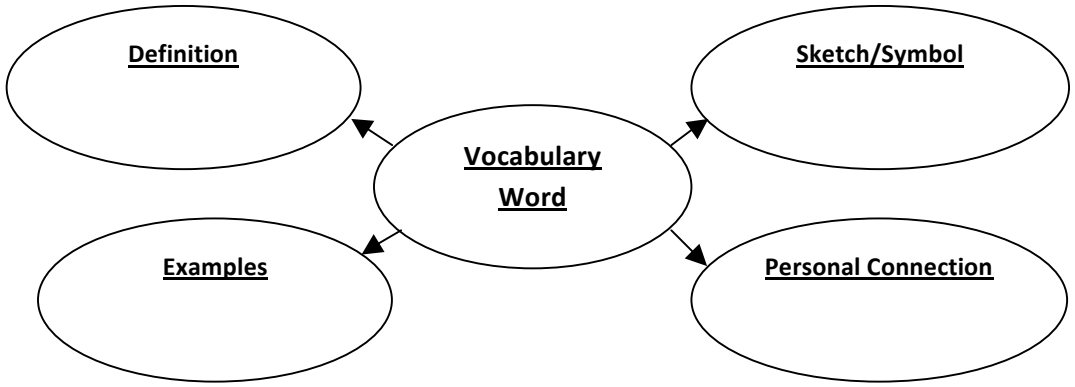

Figure 1 *Vocabulary word web.*

Deepen Vocabulary Understanding

In the fourth step, learners engage in an array of tasks/activities designed to enhance their depth of word knowledge. These activities include but are not limited to structural analyses, mimicry, and analogies. Structural analyses (e.g., prefixes, suffixes) enhance learners' ability to decode, as well as to construct, multisyllabic words (Nation, 2001, 2008; Stahl & Nagy, 2006), while mimicry fosters the students' procedural memory of the word. Analogies permit learners to explore relationships between words in greater depth, promoting students' higher order thinking skills. Examples of analogies include synonyms, antonyms, order (e.g., buy the ingredients/make the cake); and parts (e.g., motor/car).

Revise and Refine with Peers

During the fifth step, learners move toward a more accurate and fluent understanding of the vocabulary word(s) (Marzano, 2004). This stage, grounded in peer interaction, emphasizes an in-depth analysis of the word(s). Collaborative sharing (e.g., large and small groupwork as well as pairwork) provides learners with an opportunity to clarify, expand, and/or revise their knowledge of the highlighted word(s) by comparing their products (e.g., symbols) and/or understanding. Learners may also engage in learning games (e.g., Pictionary, Jeopardy, charades, Memory, $100,000 Pyramid, and bingo) to reinforce and recycle the lexicon in meaningful and engaging ways.

Conclusion

This paper details many of the principal characteristics pertaining to the teaching and learning of academic vocabulary to K–12 ELLs, emphasizing the components of effective, vocabulary-focused practice. As emphasized, particular attention must be placed upon the critical elements of academic vocabulary instruction, including: (a) the provision of multiple exposures of key vocabulary words; (b) the thoughtful selection of essential text-based vocabulary words; and (c) the formative and summative assessment of students' academic vocabulary development.

In order for instruction to be optimized, a sufficient amount of class time must be dedicated to the explicit teaching of academic vocabulary, with an emphasis on the development and implementation of structured and systematic tasks and activities. More specifically, instruction should consist of several distinct pedagogical steps that allow the students to engage extensively in the active production of language. During the initial steps of such instruction, the emphasis is on fostering an understanding of the word(s). The teacher explains/describes the selected vocabulary to the students, using a variety of activities (e.g., incorporating online visuals as stimuli), while also providing students with ample opportunity to restate (in various forms) the definition of the word and construct a representation of it. In subsequent steps, the learners' depth of word knowledge is reinforced through a variety of meaningful activities (e.g., peer discussions) and learning games (e.g., Pictionary).

As detailed in this paper, English language learners' understanding of academic vocabulary can be enhanced through an explicit and systematic pedagogical focus. Therefore, it is of vital importance that educators incorporate and emphasize direct vocabulary instruction as a core component in their classroom lessons. Doing so can have a critical positive impact on learners' overall academic success, as well as their success in particular content areas.

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