Beyond the dictionary: what teachers can do to help build struggling readers' vocabularies

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Abstract
Vocabulary is well documented as a predictor of reading comprehension and school success (Cunningham & Stanovich, 1997; Davis, 1944 & 1968; Singer, 1965; Spearritt, 1972; Thurstone, 1946; Anderson & Nagy, 1991; Baker, Simmons, & Kame'enui, 1998; Becker, 1977; Cunningham & Stanovich, 1998). Through the research of the National Reading Panel (2000), vocabulary was identified as one of the five facets for improving students' reading along with phonemic awareness, phonics, fluency, and comprehension. Research has estimated that for every word known by a student who is able to use morphology and context, an additional one to three words should then be understandable (Nagy & Anderson, 1984). Readers who have acquired these skills have the potential to figure out the meanings of countless unknown words in an independent fashion. Figuring out the meanings of unknown words and understanding the vocabulary is an essential skill for proficient reading (Foil & Alber, 2002). Having students look up words in a dictionary and practice their definitions is insufficient in developing a deeper understanding of words. Therefore, researching the effects of vocabulary instruction seems vital, since it is known that reading independently produces higher rates of vocabulary. Students with learning disabilities, however, do not engage in the amount of reading necessary to develop higher vocabularies by itself (Jitendra, Edwards, Sacks, & Jacobsen, 2004).
BEYOND THE DICTIONARY: WHAT TEACHERS CAN DO TO HELP BUILD STRUGGLING READERS' VOCABULARIES

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Introduction

Vocabulary is well documented as a predictor of reading comprehension and school success (Cunningham & Stanovich, 1997; Davis, 1944 & 1968; Singer, 1965; Spearitt, 1972; Thurstone, 1946; Anderson & Nagy, 1991; Baker, Simmons, & Kame′enui, 1998; Becker, 1977; Cunningham & Stanovich, 1998). Through the research of the National Reading Panel (2000), vocabulary was identified as one of the five facets for improving students’ reading along with phonemic awareness, phonics, fluency, and comprehension. Research has estimated that for every word known by a student who is able to use morphology and context, an additional one to three words should then be understandable (Nagy & Anderson, 1984). Readers who have acquired these skills have the potential to figure out the meanings of countless unknown words in an independent fashion. Figuring out the meanings of unknown words and understanding the vocabulary is an essential skill for proficient reading (Foil & Alber, 2002). Having students look up words in a dictionary and practice their definitions is insufficient in developing a deeper understanding of words. Therefore, researching the effects of vocabulary instruction seems vital, since it is known that reading independently produces higher rates of vocabulary. Students with learning disabilities, however, do not engage in the amount of reading necessary to develop higher vocabularies by itself (Jitendra, Edwards, Sacks, & Jacobsen, 2004).

Research has shown that 5th grade students who read 10 minutes each day experience significantly higher rates of vocabulary improvement than students who read very little independently (Adams, 1990; Anderson & Nagy, 1991; Cunningham & Stanovich, 1998). Since students with learning disabilities do not read as much independently as they should to significantly improve their vocabulary, students with reading difficulties need to be taught explicitly how to figure out unknown words (Snow, 2002). Stahl and Shiel (1999) cite three
obstacles in vocabulary development with students with learning disabilities: differences in the amount of independent reading they engage in, lack of strategies to learn words from context, and lack of word knowledge.

Even though there is a correlation between vocabulary instruction and improving comprehension (Baumann & Kame'enui, 1991; Stanovich 1986), there is not one specific vocabulary method or program supported by research to address the differences in word knowledge between students with rich and poor vocabularies (Baker, Simmons, & Kame'enui, 1998; National Research Council, 1998; Snow, 2002). There have been general guidelines presented in literature for vocabulary instruction. The first guideline discusses that even though students are struggling with reading they need to still be encouraged to read (Baumann & Kame'enui, 1991; Stahl & Shiel, 1999). Secondly, vocabulary needs to be taught both sequentially and directly (Biemiller, 2001). Research on explicit instruction shows that vocabulary should be focused on words that are important for understanding the text as well as words that students will encounter again in life (Stahl, 1986). Lastly, vocabulary should be taught through strategies and approaches that will optimize word learning (Snow, 2002). Since students with learning disabilities often have inadequate vocabularies, it is vital to examine the research, even though most of the research has been focused on students without disabilities (Baumann & Kame'enui, 1991; National Reading Panel, 2000; Stahl & Fairbanks, 1986; Jitendra et al, 2004; Edwards, Sacks, & Jacobsen, 2004). Overall research has suggested that there is no one sufficient way to teach vocabulary (Baker, Simmons, & Kame'enui, 1995); rather, using a variety of strategies that involve multiple exposures to unknown words has shown the best results (Beck & McKeown, 1991).
**Key Terms**

**Collaboration** - working with others to solve problems (Palincsar & Herrenkohl, 2002)

**Comprehension** - understanding what is being read (Clay, 2005; Goodman, 2001)

**Metacognition** - thinking about your own thinking and learning (Flavell, 1987)

**Mnemonics** - individualized memory boosting aides (Bryant, Goodwin, M., Bryant, & Higgins, 2003)

**Morphemic Analysis** - process of understanding word parts to infer meanings of unknown words (Stygles, 2011)

**Morphology** - study of word formation (Nagy & Anderson, 1984; Stygles, 2011)

**Special Education** - students identified as receiving special education services provided in part by a special education teacher (Turnbull, Shank, Smith, & Leal, 2002)

**Struggling Readers** - students who have difficulty reading and understanding text (Clay, 2005; Coyne, Simmons, Kame’enui, & Stoolmiller, 2004; Goerss, Beck, & McKeown 1999)

**Vocabulary Instruction** - teaching students how to learn vocabulary words to improve their comprehension (Greenwood, 2002)

**Purpose**

The purpose of this research project was to find and devise an effective approach to adequately prepare teachers to implement vocabulary instruction for students who experience difficulties in reading comprehension, targeting specifically children who are being served by
teachers within a special education program. It was hoped to find supportive research to
overcome the barriers that affect the success of readers experiencing difficulties and to provide
adequate strategies to teachers within a professional development context.

Research Question

Based on the purpose, one research question was developed. The question guided the
study and provided the focus for the professional development model.

Question: What is the most effective way to provide effective vocabulary instruction to students
who have been labeled as struggling readers?

In order to answer this question, the literature was collected and researched. Findings
from the research were synthesized to create a professional development model providing a
synthesis of effective instructional strategies for special education teachers and teachers working
with children labeled as struggling readers.
Reading is a complex process, where the reader is making meaning using information from many different sources (Clay 2005). Tierney and Readence (2005) state that “comprehension should be considered the heart of reading instruction” (p. 249), with the major goal being able to read for meaning. A key aspect of developing successful readers across texts and curriculums is teaching vocabulary well (Bromley 2007). With comprehension of the whole text being the overall goal of reading, vocabulary is a principle contributor to comprehension, fluency and achievement (Bromley 2007). A strong relationship exists between vocabulary knowledge and reading comprehension (National Reading Panel 2000), and is a vital component to understanding what is being read (Anderson & Freebody 1981 as cited by Taylor et al. 2009). Beck and McKeown (1991) state that vocabulary knowledge is fundamental to comprehending the text, and the goal of vocabulary instruction is to aid in the student’s ability to comprehend the text. In fact, being able to understand vocabulary words and to see how they relate to other concepts and ideas is a critical skill that influences reading comprehension (Foil & Alber, 2002). Students who have deficient vocabularies will likely have difficulty comprehending written material (Foil & Alber 2002).

The opportunity to learn new words and concepts hinges on the ability of the students to use independent word learning strategies and engage in wide reading. Students who struggle with reading do not engage in either activity sufficiently, and therefore have limited vocabularies (Foil & Alber 2002). Using the dictionary and context clues are not enough for vocabulary instruction, but rather having the students interacting with the text or creating relationships between words was found to be more effective (Bryant, Goodwin, Bryant & Higgins 2003). Having students look up words in a dictionary and memorize definitions leads to rapid
forgetting of words and a surface level understanding (McKeown 1993). Tierney and Readence (2005) suggest that if teachers have access to a variety of strategies that both introduce and reinforce vocabulary words, the teachers are better equipped to help students learn and retain vocabulary words. Developing a rich vocabulary has great benefits: ideas are expressed clearer and more accurate in subject matters, proficiency at a work place may be dependent on it, students have more prestige with a greater vocabulary, more enjoyment out of reading, and it is important in problem solving and in carrying on conversations (Ediger 1999). As educators we should be helping students develop their independent word learning strategies to help them become lifelong learners (Bromley 2007).

**Vocabulary Instruction at the Secondary Level**

The best solution for helping struggling readers expand their vocabularies is to have a long-term investment in vocabulary instruction through a variety of approaches (Ebbers and Denton 2008; Foil & Alber 2002). There is no single solution for how to teach vocabulary, but research has shown that it is time well spent. A correlation is shown between minutes spent on vocabulary instruction, and increased reading comprehension (Stahl and Fairbanks 1986). Even though there is not one specific strategy there are strategies that have the principles for effective instruction. They are: using explicit instruction, teaching students to apply cognitive and metacognitive strategies, promoting collaborative involvement, and providing many opportunities for practice through content and contexts (Ebbers & Denton 2008; Ediger 1999; Foil & Alber 2002; Blachowicz and Fisher 2000). Baumann and Kame’enui (1991) also identified three overall goals for vocabulary instruction: teaching students to learn words independently, teaching students specific words, and helping students see the benefits of words as a tool for communication. Several of the following strategies to be described could be
categorized into multiple categories. For the purpose of this literature review, each strategy has been put into one specific category which best reflects the global focus or intent of that particular strategy.

*Explicit instruction.* Research has shown that using explicit instruction for vocabulary learning can help struggling readers learn new and challenging words (Coyne, Simmons, Kame‘enui, & Stoolmiller, 2004; Goerss, Beck, & McKeown 1999). Students need to go beyond memorizing definitions and be actively involved in learning the new vocabulary, by comparing and contrasting new words to known words as well as making associations between word learning and their experiences (Taylor, Mraz, Nichols, Rickelman, Wood 2009). Taylor et al. (2009) discuss vocabulary instruction that needs to be ongoing throughout all grade levels and subject areas as well as appear before, during and after reading of text.

Explicit instruction seems to benefit older students, which includes modeling, guided practice, checking for understanding, and multiple opportunities for practice with feedback (Jitendra et al., 2004). A key component of explicit instruction is to give the rationale and explain the learning objectives to the students (Ebbers & Denton 2008), as well as having active communication between the teacher and students (Rupley, Blair, & Nichols 2009). In explicit instruction teachers should model the correct pronunciation of the word while dividing it into morphemes and syllables, offer a simple definition, and provide multiple exposures in various texts (Juel & Deffes 2004). Students with learning disabilities need repeated practice opportunities followed by explicit feedback (Swanson & Hoskyn 2001). With explicit feedback the teacher provides confirmation or validation of what the student is doing, and clarifies any misconceptions the students may have (Swanson & Hoskyn 2001). When teachers are not
providing students with the feedback needed to make corrections, the students are practicing their mistakes and learning the information incorrectly (Denton & Hocker 2006).

**Cognitive and metacognitive strategies: Morphology.** When students reach the intermediate grades, morphology replaces phonics since students are combining units of meaning with other words to produce new and meaningful words, rather than combining letters and sounds to make words (Stygles 2011). It is believed that two-thirds of new words learned from sixth grade on up can be derived from morphemes (Nagy & Anderson 1984). Morpheme analysis is where students explicitly learn the meanings of common morphemes- the smallest unit of a word that carries meaning (Taylor et al, 2009). There should be a gradual progression from simple to complex when teaching different morphemes (Ebbers & Denton 2008). This knowledge of roots and morphemes helps students to learn unfamiliar words (Baumann et al., 2002; Mountain, 2005; Nagy & Anderson, 1984), while at the same time providing non-examples helps students to see the limitations of morphemic analysis. Using both the context and morpheme clues is a more reliable way of figuring out the meaning of unknown words. Even if students can use each strategy separately, this does not automatically translate into using them together, they need to be taught how to do this (Wysocki & Jenkins, 1987). Explicit instruction has shown to benefit students in learning how to use both strategies together (Baumann et al., 2002, 2003).

When using morphological analysis to teach vocabulary there are several principles to consider and help guide instruction (Hennings, 2000). First, is to highlight the Greek and Latin roots, or bases, across the curriculum. Second, is to generalize known roots to other unknown words a student encounters. Third, is to use content areas to review and introduce prefixes, which goes along with the fourth principle of paying attention to prefixes that carry a negative
message (such as un, non, mis, etc.). Fifth, is to pay attention to word parts that tell how much or how many, particularly when dealing with math. The sixth and final principle is to make meaning of the common suffixes. Students need to make connections between words across curricular areas and not see them as individual word study lessons. By presenting instruction effectively across curricula, students are learning clusters of words (Henning 2000).

Structural analysis, a word identification skill, looks at the known parts of a word to try and figure out the meaning of the unknown word. Effective teachers do not teach words but instead teach processes students can replicate and generalize to other words (Greenwood & Bilbow 2002). Word identification lends itself to explicit teaching, while at the same time allowing for investigation of patterns. Greenwood and Bilbow suggest patterns which students could investigate to figure out unknown words are: focusing on the consonants, using the onset and rime, chunking words using prefixes, suffixes or seeing smaller words within the word, and using the first syllable and last syllable to figure out the unknown word.

Bloodgood and Pacifici (2004) also encourage the “Root of the Day” (p. 260) activity that can occur at any time of the school day. In this activity the teacher writes a root word on the board and students create new words, and then there is discussion to understand how the words were morphed into other words. This also provides an opportunity for students to compare and contrast meanings of the words. Other variations of this activity include using web or semantic mapping where students can create similar words with similar meanings.

All students in the intermediate and middle grades need word study work (Greenwood & Bilbow 2002; Hennings 2000). Instead of teaching specific words, teachers need to think in terms of giving students the tools they need to construct meaning from text. The ability to
combine new concepts with prior knowledge and the ability to access prior knowledge of words is vital in reading comprehension, especially at the middle grades (Anderson & Freebody, 1981; Chall, 1987; Daneman, 1988 & 1991; Davis, 1968; Rupley, Logan & Nichols, 1998-1999).

Vocabulary instruction needs to connect to prior knowledge and make connections between unknown words. Students need to be able to manipulate the words by seeing similarities and differences between them, and by looking at multiple definitions (Greenwood, 2002). Another way to accomplish this is through the use of word analogies, which allows students to connect vocabulary knowledge across the curriculum. Analogies show the relationships between sets of words, and helps students to see the similarities or patterns to help figure out unknown words (Greenwood & Bilbow, 2002).

Promoting collaborative involvement. When students have the opportunity to interact with their peers they are learning (Palincsar & Herrenkohl, 2002; Wentzel & Watkins, 2002). Students need time to work out the details with each other because this allows them to use social and academic language while they consolidate their understandings (Ross & Frey 2009). The vocabulary self-collection strategy (VSC) is a vocabulary strategy that has the learner create meaning through interactions with the text and each other (Ruddell & Shearer 2002). These researchers investigated the effects of the VSC strategy on a group of middle school students who were receiving significant reading interventions. The research on this strategy showed that it was an effective way to increase the depth and size of students' vocabulary knowledge, and helped students to become independent word learners.

The VSC strategy involved middle school students each selecting one word per week that they wanted to study (Ruddell & Shearer 2002). The students had to present where they found the word, what they thought it meant, and why they thought the class should study it. Then, the
class decided on its final list of words for the week. Throughout the rest of the week, students engaged in using semantic mapping, discussion, semantic feature analysis, and other interactive word activities. At the end of the week, students took a test on how well they could spell the word, describe its meaning, and write the word in a sentence. Every three weeks, the past lists were reviewed, and students were randomly tested on five words from the previous lists. Results showed an average of 94% correct on the definitions and 76% correct on the spelling portion. When compared with the other language arts classes, results showed students performed significantly better on the VSC lists than on traditional language arts spelling lists. Reasons for these results were attributed to the fact that in the language arts classes, students were responsible for twenty words, whereas students using the VSC strategy were only responsible for seven or eight words. These authors inferred that perhaps it is better for students to learn seven or eight words well than to study the surface of 20 words.

Drama is another strategy that is recommended because of the benefits shown for using a kinesthetic approach to vocabulary development (Richardson 1995 as cited by Foil & Alber 2002). A small body of research has indicated that using drama activities proves effective for improving students’ vocabulary (Casale & Manzo, 1982; Duffelmeyer, 1980; Ranger, 1995, as cited by Foil & Alber, 2002). One of the activities suggested is having students form teams and play charades to act out the vocabulary words. Another activity to involve the whole class simultaneously is to have students stand by their desk and perform dramatic movements that illustrate the definitions, such as the rotation of the earth. Students can also perform skits using the selected vocabulary words that pertain to the literature they are reading.

Word web is a collaborative activity because discussing the words and using them in an appropriate context is vital to this activity (Greenwood 2002). Greenwood describes this strategy
in four steps. First, place the concept on the board; then, list two or three categories that are related to the concept. Then choose one of the categories and list attributes of that category. After that, have students independently add words to the web. Then come back together and collaboratively add more words to the web, and lead students through a discussion of how the words are alike and different (Greenwood 2002).

Providing many opportunities for practice across content and contexts. The teacher is also responsible for extending the vocabulary learning across their subject area that go beyond just a definitional approach and engage the students in more active learning activities. Students then need to be actively engaged with the instruction and not just be passive learners, as well as having multiple opportunities over time to internalize new vocabulary words (Greenwood 2002). Multiple exposures to words in various contexts over time helps students integrate words into their own speaking, listening, writing and reading vocabularies (Stahl & Fairbanks 1986). This could be done through the use of semantic sorting (Ebbers & Denton 2008), strategic questioning (Ebbers & Denton 2008), or mnemonic devices (Bryant et al. 2003; Jitendra et. al., 2004). Semantic sorting involves creating networks of semantically related words that could be synonyms, antonyms, have the same root, same concept, or any other trait that relates the words. These activities often involve a graphic organizer that can be implemented in small groups and create relevant verbal interactions (Ebbers and Denton 2008). Semantic mapping gives students a visual representation for organizing information. This can be done by the students arranging their vocabulary words on a topic into categories, or by giving the students a category and having them generate words that would fit in to the category (Foil & Alber 2002). This strategy shows student success in vocabulary development (Anderson-Inman, Knox-Quinn, & Horney 1996; Bos & Anders 1990; Moore & Readance 1984 as cited by Foil and Alber 2002). Strategic
questioning can be used to lead to a deeper understanding of the words (Ebbers & Denton 2008). Teachers can ask questions that encourage the students to work through the meanings of unknown words and have the students answer questions or solve problems using the new vocabulary words in different contexts. Research has shown that the use of mnemonic aids has strong support for students with learning disabilities (Bryant et al. 2003; Jitendra et al. 2004). The keyword method has shown to be one of the most effective mnemonic methods that combines the use of images, with similar sounding word parts (Pressley, Levin & Delaney 1982). The keyword method (Atkinson 1975 as cited by Foil and Alber 2002) is used to expand on unfamiliar words or concepts by making them more meaningful and concrete. There are three steps for using the keyword method; recoding, relating, and retrieving. During recoding, the student takes the unfamiliar word and changes it into a familiar word that is easily pictured. For example, students could remember that “muck” means dirty if they rhymed it with “yuck”. Then the student relates the keyword to the unfamiliar word by drawing a picture of the words interacting. In the retrieving step students are asked to think of the keyword as well as the picture to retrieve the definition of the word. It is well documented that students have shown academic improvement when teachers implement this strategy (Avila & Sadowski 1996; Fulk, Mastropieri & Scruggs 1992; Guillory 1998; King-Sears, Mercer, & Sindelar 1992; Lawson & Hogben 1998; Mastropieri, Scruggs & Fulk 1990; as cited by Foil and Alber 2002).

Three strategies Taylor et al.(2009) suggest are semantic feature analysis, vocabulary self-awareness chart and vocabulary cards. The semantic feature analysis uses a chart where students analyze the similarities and differences between related concepts. The goal is for the students to see how the key concepts link to one another, which in turn will help with overall comprehension of the text. The vocabulary self-awareness chart (Goodman 2001) is a way to
provide explicit support for word learning while at the same time giving students the opportunity to make choices about which words are the most important. The third strategy is vocabulary cards that go beyond regular flashcards. On the front of each flashcard it has the term, definition, and a picture, on the back of the card the student writes the relationship between the picture drawn and the definition.

Each of these strategies requires students to use their prior knowledge to make connections to new information, and has students actively engaged with the vocabulary at a deeper level rather than just with the dictionary definition (Taylor et al. 2009). These strategies can help the students understand the text better as well as giving them tools to use in other subject areas with vocabulary they are struggling with.

Knowledge rating is another strategy to teach vocabulary. This is where students use their prior knowledge to try and figure out the meanings of unknown words. This also helps the teacher to see what the students already know and what they need to learn (Taylor et al. 2009). First, the teacher should present the students with a list of vocabulary words that they will encounter in their reading. Next, have the students rate their understanding of the words from don’t know at all, have seen or heard but don’t know what it means, I think I know what it means, or I know the meaning. The students should be encouraged to discuss what they already know and what contexts they may have seen these words before. Students should write down the definitions of the unknown words after the discussion. Finally, have students read the text and refer back to their knowledge rating scale when they come to a new word.

Graphic organizers can be a beneficial way to increase students' vocabulary knowledge (Taylor et. al 2009) and provide the structure and organization necessary for a struggling reader
to help make difficult concepts comprehensible (Guastello, Beasley, & Sinatra, 2000). Graphic organizers come in many forms and help the students build knowledge of the concept, and develop a better understanding of the relationships of the concepts. Graphic organizers can also help to visually display new words, while at the same time providing the opportunity for students to compare and contrast new words to already known words. There are 3 C’s suggested when using graphic organizers with struggling readers- consistency, coherency, and creativity (Baxendell 2003). Being consistent helps to establish a routine, and a predictable structure. This can be done by familiarizing students with a set of general organizers and teaching them the routines for their use. Teachers need to be coherent by showing clear links between concepts. Lastly, be creative by adapting the graphic organizer to meet the needs of your students and the goals for the lesson. Graphic organizers can be used before, during, or after reading as well as with the whole group, a small group or pairs of students (Baxendell 2003). Graphic organizers can be used for semantic word maps, semantic feature analysis, and knowledge rating just to name a few.

Conclusions and Recommendations

Over the past thirty years, understanding about and research in the area of vocabulary development has grown immensely. Research has shown that word learning takes place over time in many steps (Carey 1978; Clark 1993; Dale 1965; Durso & Shore 1991; Paribakht & Wesche 1996) and multiple exposures to the words are helpful for understanding (Beck, Perfetti, & McKeown 1982; McKeown, Beck, Omanson & Pople 1985; Stahl & Fairbanks 1986). There have been a number of studies done on how to effectively teach students vocabulary. The most important thing students can do to build their vocabularies is read independently (Adams 1990; Anderson & Nagy 1991; Cunningham & Stanovich 1998). Since the research has shown that
generally students with learning disabilities do not engage in a sufficient amount of independent reading to improve their vocabularies, these students need to be taught vocabulary strategies explicitly. The research has indicated that multiple exposures to words over time and across different contexts are effective. Most of the research did not identify one strategy as the most effective, but they all indicated that multiple exposures over time using active learning, connecting unknown words to known words, exploring similarities and differences between words, and activating prior knowledge are important in vocabulary development.

A general theme throughout the literature is that there has not been a sufficient amount of research involving students with learning disabilities (Jitendra, Edwards, Sacks & Jacobsen 2004). This suggests that there is a need for more recent research that looks specifically at students with learning disabilities and struggling readers, and what strategies are most effective to learn new vocabulary to improve comprehension. Some general implications for teaching practices are: educators need to teach vocabulary directly, when deciding how to teach vocabulary there are many research-based methods and strategies to choose from, and practice is critical to learning vocabulary and generalizing it across subject areas (Jitendra, Edwards, Sacks & Jacobsen 2004).

Summary

The research has shown that vocabulary knowledge is essential for improving reading comprehension (Cunningham & Stanovich, 1997; David 1944 & 1968 Singer, 1965; Spearitt, 1972; Thurstone 1946; Anderson & Nagy, 1991; Baker, Simmons, & Kameʼenui, 1998; Becker, 1977; Cunningham & Stanovich, 1998). Independent reading is one of the most effective ways to improve vocabulary knowledge, but struggling readers do not engage in enough independent
reading to improve their vocabularies on their own (Jitendra, Edwards, Sacks & Jacobsen 2004). Often times struggling readers are not able to figure out the meanings of unknown words on their own, and need to be taught strategies on how to do this. This is why teachers need to explicitly teach the students strategies they can use to figure out meanings of unknown words across subject areas. The most effective strategies from the research involve teaching vocabulary using explicit instruction (Coyne, Simmons, Kame'enui, & Stoolmiller, 2004, Goerss, Beck, & McKeown 1999), using morphemic analysis and context clues (Stygles 2011; Taylor et al. 2009), giving students multiple exposures to words (Greenwood 2002), using mnemonic devices, and getting the students actively involved in their learning (Taylor et al. 2009).

The literature has identified several research based strategies that teachers can incorporate into their classrooms to help build struggling readers vocabularies, and in turn improve their comprehension. In order for that to happen teachers need to be taught how to effectively use and incorporate those strategies into their classrooms through professional development.
Methodology

The methodology for this research project focused on answering the research question. When collecting articles for this literature review primary sources were used that were peer reviewed. Articles were found using Expanded Academic, Education Full Text, and ERIC, using keywords such as vocabulary development, vocabulary instruction, special education and middle school, collaborative engagement, effective vocabulary strategies for struggling readers, and effective professional development for teachers.

Articles were then categorized by content, using a key word or emerging theme from the article as the focus for categorization of each source. As articles formed categories, a summary of the content within each category was reviewed to determine areas of need for additional research. From this analysis additional research articles were then sourced using citations within articles included in the category that provided specific needed content, as well as using Expanded Academic, Education Full text, and ERIC to source additional research content.
Professional Development

One of the keys to improving the quality of U.S. schools and improving teachers' knowledge is through professional development (Desimone 2011; Carlisle, Cortina & Katz 2011). Professional development that is well-designed can help teachers employ research based literacy strategies. Providing a single-shot professional development workshop has little or no impact on classroom practice (Dingle, Brownell, Leko, Boardman, Haager 2011). Cohen and Ball (1999) stated that if the goal is to improve the amount of instructional capacity for teachers, than teachers need to be engaged in learning, supported in their efforts, and feel that what they are doing is paying off in the classroom. Just providing teachers with up to date knowledge is not enough to make substantive changes in their practices (Desimone 2002).

Desimone (2011), states five core features for effective professional development. They include: (1) content focus- focusing on subject matter and how students learn the content (2) active learning- teachers should be involved (3) coherence- what teachers are learning should be consistent with other professional development (4) duration-activities should be spread out over a semester or longer (5) collective participation- teachers from the same grade, school, or subject area should participate in activities together. To ensure that professional development improves student learning, there needs to be appropriate tools to evaluate the teachers’ learning and instruction so that future professional developments can continue to be refined to help the teachers improve (Desimone 2011). Another factor that has shown to help implementation is administrative support (Bryant, Linan-Thompson, Ugel, Hamff, & Hougen 2001). Teachers felt more accountable and more encouraged to use the strategies when they perceived that the principal expected them to use the strategy, as well as conducted classroom observations on the use of the strategy (Dingle, Brownell, Leko, Boardman, Haager 2011). Dingle et al. (2011),
found that teachers were able to implement and adapt classroom practices when they a) had a good understanding of the content and how to teach it b) able to address needs of individual learners while at the same time responding to the rest of the class c) their beliefs aligned with what they have learned.

Research on effective professional development has also been addressed in the area of vocabulary instruction. Bloodgood & Pacifici (2004) implemented word study strategies in classrooms for both preservice and practicing teachers. Out of this research came three levels of word study understanding by the teachers: theoretical, contextual and practical, and reflective. Theoretical understanding is when teachers know about word study, but do not necessarily apply it to their classrooms. The practical and contextual level describes teachers who understand the importance of word study and how to teach it, but feel they have little flexibility in their instruction. The reflective level teachers develop a deeper understanding of word study and are able to make changes depending on individual situations. The teachers and students in this study interacted with word study daily. They also found that teachers need a gradual introduction to word study with time to build their confidence, knowledge base and implementation of strategies.

*Professional Development for Vocabulary Instruction*

Professional development is designed to help teachers improve their teaching and in turn help their students improve. The professional development model for this project will take place over the course of a year and will be divided into six staff development sessions, which are each 2-3 hours in length. This professional development is targeted toward special education teachers
and reading teachers, particularly those who work with special education students and struggling readers.

Each session will be about different strategies to improve vocabulary development. The sessions will begin in August with an overview of all the strategies and then focusing specifically on explicit instruction. Then in October/November we will move into cognitive and metacognitive strategies, followed in December/January with providing many opportunities for practice through content and contexts. In February/March we will be covering the topic of promoting collaborative involvement. April/May will be spent reviewing the strategies. Our last session in June will be spent working on ways to incorporate all the different strategies into the curriculum for the next school year. Throughout the different sessions teachers will be asked to design lessons incorporating the different strategies, reflect on their lessons, as well as digitally record themselves. Teachers will also have the opportunity to work with colleagues to design lessons and discuss successes and challenges with them.

Before beginning this staff development a conversation will have to be had with the administration, showing them why this is an important topic their teachers should be learning about and implementing. The administrative support will have to be gained so that the teachers see the value and are given the necessary time to work on developing vocabulary lessons within their classrooms. Research has shown that administrative support helps the implementation of professional development (Bryant, Linan-Thompson, Ugel, Hamff, & Hougen 2001). The administration will be invited to participate in this staff development and learn about the different ways vocabulary instruction can help improve their students’ comprehension.
Session one August/September

Materials: poster paper, markers, pens, paper, PowerPoint handouts from presentation, lesson plan organization sheets, reflection sheets

First 30 minutes: This session will begin with teachers bringing in samples of what they currently use to incorporate vocabulary into their instruction. I will have the teachers be in groups of 3-4 people and share what they currently use. Then within their groups compile a list of strategies and materials used to be put on poster paper, and hung around the room for all to see. Then each group will share the different ways vocabulary instruction is incorporated into their curriculum, as well as what texts the teachers use when teaching vocabulary. The purpose of this activity is to get teachers thinking about what they already do to incorporate vocabulary instruction into their curriculum, and also get new ideas about how they can incorporate vocabulary instruction.

Next 20-30 minutes: After this opening activity I will move into the power point presentation on the importance of vocabulary instruction and the different research based strategies to be used (see Appendix A). During this time each teacher will have a hard copy of the presentation so that they can follow along, make notes and ask questions as we go. I will give the whole presentation which has all the strategies we will be covering throughout the year, but I will preface it by saying we will be focusing on one topic for each professional development session.

30 minutes: After the presentation we will focus on explicit instruction. The teachers will brainstorm within their groups how they already incorporate explicit instruction into their curriculum. Then I will have one of the teachers give me a topic or skill, and we will work through it together to develop a lesson using explicit instruction with all the steps; modeling,
guided practice, checking for understanding, and multiple opportunities for practice with feedback. After this, I will see if there are any more questions or discussions about explicit instruction.

Final 60 minutes: After teachers feel like they have a good understanding of what explicit instruction is, teachers will have time to work with their colleagues to design a lesson. Teachers will work in their classrooms to design a lesson incorporating explicit instruction with real text using the lesson plan format provided (see Appendix B). I will go from classroom to classroom to answer questions. This lesson needs to be on something the teachers will be teaching within their classroom over the next two weeks that they can implement.

Over the next 2 weeks: Teachers will implement the lesson they designed. A reflection sheet (see Appendix C) will also be provided for teachers to reflect on how the lesson went, what they would keep the same, and what they would change for next time. Teachers will need to meet with one colleague after they have both given their lessons to discuss what they did and how it went.

2-4 weeks later: After they have had a chance to meet with their colleague, each teacher will need to plan and implement one more vocabulary lesson incorporating explicit instruction. They will need to design the lesson using the same lesson format (see Appendix B). After implementing the lesson teachers will be asked to fill out a reflection (see Appendix C) as well. Lesson plans will need to be posted on the wiki page before the next professional development day. The reflections will need to be e-mailed to me. By not having the teachers post their reflections it gives them a chance to truly reflect without worrying about other people seeing it. This will help me to see the teachers understanding of explicit instruction as well as ideas and
topics they are using to incorporate explicit instruction. This will also give other teachers a chance to see what other people are doing and get ideas. A wiki is a place where teachers will post their lessons online so other teachers can read their lessons and make comments. This will also be a place where I can make comments. A wiki is a free, private and secure site.

At least one week before the next staff development teachers will be given or e-mailed a link to the article; Ebbers, S. M., & Denton, C. A., (2008). A root awakening: Vocabulary instruction for older students with reading difficulties. *Learning Disabilities Research & Practice, 23,* 90-102. This article gives an overview of morphemic analysis and the importance of vocabulary instruction, so teachers have an idea of what we will be discussing next time.
**Session 2 October/November**

Materials: power point presentation, lesson plan organization sheets, poster paper, reflection sheets, sticky notes

First 30-45 minutes: We will begin by reviewing explicit instruction. This will be done by having each small group write the four steps to explicit instruction on poster paper i.e. modeling, guided practice, checking for understanding, and multiple opportunities for practice with feedback. Then each person within that group will write how they incorporated each of those steps in one of the lessons on a separate sticky note to be put in the different categories. Then within their small groups teachers will discuss their successes and issues followed by what they changed from their first lesson to their second lesson and why they did that. Successes and issues will also be two categories added to the poster paper. Then each group will share their poster paper with the whole group. This will hopefully lead to a whole group discussion about what worked and didn’t work with explicit instruction. This will give teachers a chance to see what others are doing and some of the issues others are having with this strategy, and offer advice, as well as seeing how teachers had success with this strategy and being able to incorporate that into their own instruction as well.

30 Minutes: Next we will move into metacognitive and cognitive strategies. We will go back to the power point presentation (see Appendix A) on metacognitive and cognitive strategies to review what the different strategies are. Within small groups teachers will brainstorm as to how they can incorporate one of these strategies into an upcoming lesson within the next two weeks that uses real text. Teachers will also brainstorm common prefixes across science, social studies, and math their students will encounter that they could also incorporate into their lesson. After
the small groups have had this discussion the ideas will be shared with the large group and a list will be compiled of all the ideas to be sent out electronically to the teachers.

60 Minutes: Before giving the teachers time to meet with their colleagues a few announcements need to be made. First, at the next professional development we will be covering these strategies: semantic sorting, semantic mapping, strategic questioning, mnemonic aids, keyword method, semantic feature analysis, vocabulary self-awareness chart, vocabulary cards, knowledge rating, graphic organizers. Teachers need to be encouraged that if they are already using one of these strategies within their classroom, I would like them to share that example with us at the next professional development. Teachers will have two weeks to get back to me so there is ample opportunity to prepare. Secondly, the next time we will be discussing digitally recording their lessons, so teachers can view their own teaching. There will be flip cameras available in the library to use, or teachers can bring in their own digital recording device.

The teachers can record themselves by setting their device on a tripod, or the teacher can have someone else come in and record them. Before this can happen teachers need to check in the office that a release form has been turned in for all their students, so that they can be recorded. Also, a letter should be sent home to parents just letting them know that the teacher will be digitally recording lessons and the purpose of this is to focus on the teachers teaching. Then give teachers time to meet with colleagues in their classrooms to design a lesson to be implemented within the next two weeks that incorporates one of metacognitive strategies. Before sending them off to meet with their colleagues the teachers need to be encouraged to continue to incorporate explicit instruction into their curriculum as well. I will go from classroom to classroom to answer questions and help in any way I can. While designing their lesson teachers will be asked to fill out a lesson plan sheet (see Appendix D) as to what strategy
they are going to use, the steps and text used for that strategy. This form will be available electronically so teachers can fill it out and upload it to the wiki page. This will give other teachers a chance to see what other teachers are doing and a chance for me to see how the teachers are doing as well.

**Over the next 2 weeks:** Teachers will need to implement their lesson and reflect (see Appendix C) on what went well in the lesson, what didn’t work, what would they would change for next time and what they learned. Teachers will need to meet with a colleague to discuss their lesson. After this, the reflection will need to be submitted to me electronically. This gives me an opportunity to see how the teachers are feeling with the implementation of the strategies and where to begin the next professional development. Since these will not be posted on the wiki, it gives teachers a chance to truly reflect without worrying about posting it for everyone to see.

**Over the next month:** After this first lesson is implemented one more lesson incorporating a metacognitive strategy will need to be implemented before the next professional development day. Teachers will again be asked to fill out a lesson design sheet (see Appendix D) followed by a reflection (see Appendix C). At the next professional development teachers will have an opportunity to meet with their colleagues and discuss the lesson.
Session 3 December/January

Materials: power point presentation, self-reflection digitally recording sheets, lesson design sheets

First 30-45 minutes: Within small groups teachers will have the opportunity to share what they did to incorporate metacognitive and cognitive strategies, as well as sharing what worked and didn’t work. This will give teachers an opportunity to get their colleagues input and ideas, and also share what ideas worked so that other colleagues can use those ideas. After everyone within the group has gotten a chance to share, the group will compile one list of lesson ideas, successes, and issues that one person will share with the whole group. This will be done either by using an overhead or a SMART board depending on the technology available. This will give teachers a chance to have a whole group discussion about how things are going so far.

Next 30 minutes: We will begin discussing the section on providing many opportunities for practice through content and context. At the previous professional development session I asked for volunteers to share if they were using some of these strategies already. I will have each strategy pulled up on the computer from the power point (see Appendix A). As a group we will read over the first slide for semantic sorting. Then the teacher who has an example of this strategy will present it to the whole group. If I had not been able to find someone who was already incorporating this strategy I will provide an example for that strategy. We will continue going slide by slide by reading it over and then having teachers or myself share examples of that strategy.

This time the expectation is that teachers will digitally record two lessons and self-reflect (see Appendix E). There will be flip cameras available in the library for teachers to use or
teachers can use their own recording device. Teachers can record themselves using a tripod or they can invite someone into their room to record the lesson for them. The purpose of this is for teachers to see the delivery of their lesson as well as student responses to the lesson.

After the lesson has been digitally recorded teachers will need to watch it and reflect on how effectively the lesson was taught and how well the students received the lesson. Asking themselves questions such as; Did the students learn what I wanted them to learn, how do I know? Did the lesson design go as I had planned, how do I know? Did I readjust parts of the lesson as we went, why? What would I change for next time? What would I continue doing next time? The purpose of this is for teachers to take the time to reflect on their own teaching as well as the students in their classrooms. There are things that go on during a class that aren’t always picked up on, by seeing a digitally recorded lesson teachers will have an opportunity to see all that is happening within their classroom. One of the expectations for the next professional development session is that each teacher will pick a 5 minute or less portion of their recording to share with everyone. The part of the recording they choose to show should be addressing one of the above self-reflection questions.

60 Minutes: Teachers will meet with colleagues in their classrooms to plan a lesson incorporating one of the strategies just discussed. Teachers will need to fill out a lesson design sheet (see Appendix F). While teachers are working I will go from classroom to classroom to answer questions.

Over the next 2 weeks: Teachers will implement their lesson, digitally record it and self-reflect on the lesson (see Appendix E).
Over the next month: Teachers will be expected to digitally record another lesson before the next professional development session. Teachers will need to fill out a lesson design sheet (see Appendix F) as well as a reflection (see Appendix E). Before the next professional development session an e-mail needs to be sent out reminding the teachers to pick their 5 minute or less part of the lesson they are going to share, which addresses one of the self-reflection questions. Teachers will need to post one of their lessons to the wiki page for everyone to look at. The self-reflections will again need to be e-mailed to me.

At least one week before the next professional development session teachers should be given a copy of or e-mailed a link to the article; Ruddell, M. R., & Shearer, B. A. (2002). “Extraordinary,” “tremendous,” “exhilarating,” “magnificent”: Middle school at-risk students become avid word learners with the vocabulary self-collection strategy (VSS). *Journal Adolescent & Adult Literacy, 45*, 352-363. This article gives an overview of the vocabulary self-collection strategy, which is a strategy we will be discussing and practicing at the next staff development.
Session 4 February/March

Materials: power point presentation, self-reflection digitally recording sheets, lesson design sheets, something to show recordings on

First 30-45 minutes: Have teachers jot down three successes and two issues they are still having. Share these with their groups and compile one list of successes and issues with incorporating the different vocabulary strategies. Have each small group share their lists with the whole group to see what things are going well and what things are still problem areas. This gives teachers an opportunity to see if other teachers are struggling with the same things they are, or if another teacher has found a way to fix that issue. This also gives the facilitator an opportunity to see what issues need to continue to be addressed and what things the teachers have a good handle on. The list will be compiled to help plan future professional developments.

Next 45-1 hour minutes: Before this session teachers will have had the opportunity to digitally record themselves and reflect on the lesson. Ahead of time teachers will have picked which moment they are going to share, so within small groups teachers can share their digitally recorded moment and the self-reflection question it addresses. Each small group will choose one person to share his/her moment and reflection with the whole group. Recordings can be viewed from the computer, or on the TV depending on the technology capabilities of the room.

30 minutes: Then we will move into the next section promoting collaborative involvement. We will read over the power point (see Appendix A) slides about this topic and what strategies fall under this category. Teachers will have an opportunity to ask questions and discuss with colleagues how they could incorporate these strategies. As a group we will do an example of the vocabulary self-collection strategy. I will present the teachers with a short excerpt from a journal
article titled *The Amazon Basin in Transition* (see Appendix G). Teachers will be reading the first two paragraphs and then each group will pick one or two words they think we should study. The group will need to give a definition of what they think the word means and why the group should study it. Then as a group we will discuss what strategies could be used to study these words more thoroughly. The excerpt from this article was chosen, because not everybody is familiar with this topic and it has some challenging vocabulary within the reading. This will give teachers a chance to see how their students feel when presented with material they are not familiar with.

60 minutes: Before giving teachers time to work on these lessons they need to continue to be encouraged to incorporate any of the other strategies that they have been working on. Teachers will have an opportunity to meet with colleagues in their classrooms to design a lesson using one of the strategies we just went over using the lesson design sheet (see Appendix H). The expectation again will be for teachers to digitally record themselves, and do a reflection (see Appendix E) on the lesson. Also, to get more feedback it would be beneficial if teachers had an opportunity to meet with one other colleague to go over their moment and discuss it with him/her before the next professional development session. At the next professional development session more moments will be shared. To see how teachers are incorporating these strategies a reflection (see Appendix E) will need to be e-mailed to me and the lesson design sheet (see Appendix H) posted on the wiki.

Over the next 2 weeks: Teachers will implement their lesson, digitally record themselves, and self-reflect on their lesson. After completing this teachers will need to meet with a colleague and discuss their lessons.
Over the next month: Teachers will be expected to design one other lesson incorporating one of the promoting collaborative involvement strategies to be digitally recorded. A lesson design sheet will need to be filled out (see Appendix H). Teachers will need to self-reflect (see Appendix E) on their lesson to see how the students are responding to the strategies, and how the lessons are going.
Session 5: April/May

Materials: power point presentation, some sort of player to show select recordings on, digitally recorded self-reflection sheets, poster paper with successes and issues

First 45 minutes-1 hour: Within the small groups give teachers an opportunity to share and discuss their recorded moments. First, teachers will share their moments with their group addressing one of the self-reflection questions. Teachers could show the moment on their computer for the entire group to see. After that, the groups will be reorganized so teachers have another opportunity to share their moments and get more feedback from different people. The groups could be reorganized by numbering off.

Next 30 minutes: Have the list that was compiled from the last professional development of successes and issues available for teachers to see. Have teachers jot down any other successes or issues within their group they are still having that can be added to the chart. Share these with the whole group. We can also discuss if any of the previous issues can be moved to the success side of the chart. Give teachers an opportunity to have a discussion as a whole group.

60 Minutes: Teachers will have time to work with colleagues in their classrooms to design two lessons that will need to be implemented before the next professional development session. One of the lessons will need to be digitally recorded. Teachers can pick any strategy they would like to incorporate into their instruction that best fits their students' needs and the content that is being taught next. At the next professional development session teachers will be sharing another moment that addresses one of the self-reflection questions.

Between now and the next professional development session: The expectation is that teachers will design two different lessons incorporating one or more of the vocabulary strategies.
Teachers will be asked to fill out the lesson design sheet that matches their strategy (see Appendix B, D, F, H). Teachers will need to digitally record one of the lessons, self-reflect (see Appendix E) on it and then meet with a colleague to view and discuss the recording.
Session 6: June:

Materials: player to play recordings on, brainstorming sheets for next school year, poster paper with the ongoing list of successes and issues

First 45 minutes: Teachers will share their moment that addresses one of the reflection questions first within their small group, and then teachers will be reorganized into different groups so they have the opportunity to get other teachers perspectives. Teachers can share their moments using the computer. Again groups can easily be reorganized by numbering off.

30 Minutes: As a group we will address the ongoing list of successes and issues. The poster paper will be up in the front of the room and we will discuss new successes that have happened, other issues that have come up, and if any of the issues can be moved to the success side of the poster paper.

Next 30 minutes: There will be four different pieces of poster paper around the room each with a different topic; explicit instruction, cognitive and metacognitive strategies, providing many opportunities for practice through content and context, and promoting collaborative involvement. Give each person four post-it notes and have them jot down one lesson or topic they used for each section. Then teachers can stick their post-it notes up around the room under the appropriate category. Each list can be read off so teachers can hear all the different ideas that were used. A list will also be compiled and e-mailed to all the teachers for more ideas on how to incorporate these different strategies into their curriculum. This will lead into a discussion about next year and how to continue incorporating these strategies into their curriculum.

60 Minutes: Teachers will have an opportunity to do instructional planning for their curriculum. Give teachers time to work with colleagues in their own classrooms and discuss how vocabulary
instruction can be incorporated into the different texts used throughout the next school year. A planner sheet (see Appendix I) can be filled out that has the teacher list the text followed by possible strategies that could be used to teach the vocabulary from that text.
Project Conclusions

Changing teachers' practice in literacy requires a concerted effort on the classroom teacher and the special education teacher to make sense of the context of their classroom and the learning needs of their students. Vocabulary instruction can provide students who are experiencing struggles with reading to gain a foundation of strategies and word knowledge to help them progress. In addition, developing changes in the quality and type of instruction provided in the classroom requires sufficient time for learning content knowledge and developing pedagogy, modeling strategies, and application of practice in the classroom. In order to create an effective learning experience for teachers, professional development needs to be relevant both for the teaching and the students' learning.

The intent of this professional development project is to provide teachers with meaningful strategies and the opportunity to engage in these strategies within a content which allows them to examine and develop their practice over time. The importance of teacher self-reflection of practice has also been embedded within this professional development experience to enable them to engage in practice, reflect about the efficacy of that practice, and make meaningful changes to the learning experiences they provide for their students. Through the research-based practices provided, and the collegial design of the professional development frame, this professional development project is intended to help teachers make change within their practice that will have a meaningful impact of student learning.
References


Appendix A

Power Point Presentations

for Professional Development Sessions
Beyond the dictionary: What teachers can do to help build struggling readers vocabularies

By Stefanie Van Heukelom

Purpose for Teaching Vocabulary

• Vocabulary is well documented as a predictor of reading comprehension and school success.

• Strong relationship between vocabulary knowledge and reading comprehension.

• Correlation between time spent on vocabulary instruction and improved comprehension.

• Vital to understanding what is read.

Sharing

• In small groups share all the ways you incorporate vocabulary instruction into your curriculum and what texts are used.

• Write ideas on poster paper to share with rest of group.

Principles for effective Instruction

• 1) Using explicit instruction

• 2) Teaching students to apply cognitive and metacognitive strategies

• 3) Promoting collaborative involvement

• 4) Providing many opportunities for practice across content and contexts.

Purpose Cont.

• Research has shown independent reading best way to improve vocabularies- students with learning disabilities and who struggle don’t read enough on their own to improve vocab.

• Not one strategy, but a variety of strategies—

• End of vocab instruction aid students in comprehending text.

• Independent word learning.

Explicit Instruction

• 1) Modeling- correct pronunciation, divide it into morphemes and syllables

• 2) Guided practice

• 3) Checking for understanding

• 4) Multiple opportunities for practice with explicit feedback-teacher provides confirmation or clarifies any misconceptions.
Key Components

- Give rationale and learning objectives to students

- Active communication between teacher and students

Principles to help guide instruction

1) Highlight Greek and Latin roots or bases
2) Generalize known roots to unknown words a student encounters
3) Use content areas to review and incorporate prefixes
4) Pay attention to prefixes that have a negative meaning
5) Pay attention to word parts that tell how much or how many
6) Make meaning of common suffixes
7) Make connections across curriculums not just within

Cognitive and Metacognitive Strategies

- All students in the intermediate and middle grades need word study work
- Give students the tools to construct meaning from text
- Combine new concepts with prior knowledge of words is vital in reading comprehension

Root of the Day

- Happen at anytime of the day
- Teacher writes a root word on board
- Students create new words using that root word
- Discussion as to how the new words were formed
- Compare/Contrast meanings

Morphology

- Morphology understanding word parts to infer meanings of unknown words
- Believed that two thirds of new words from 6th grade up can be derived from morphemes
- Taught gradually from simple to complex
- Knowledge helps students learn unfamiliar words

Word Analogies

- Show the relationships between words
- Connect vocabulary knowledge across curriculums
- See similarities and differences between unknown words
Promoting Collaborative Involvement

- When students given the opportunity to interact with peers, they are learning
- Allows students to use social and academic language to consolidate understandings

Vocabulary Self Collection Strategy (VSC)

- Learner creates meaning through interactions with both the text and each other
- Effective way to increase depth and size of students' vocabulary knowledge
- Independent Word Learners

VSC Strategy cont.

- 1) Students select words they want to study and feel are important
- 2) Student presents word to class, what they think it means, and why they think the class should study it
- 3) Whole class discusses words and decides on the final list
- 4) Semantic mapping, discussion, semantic feature analysis, and other interactive word games to practice words

Drama

- Kinesthetic approach to vocabulary development
  - Have students form teams and play charades
  - Have students perform dramatic movements that illustrate definitions
  - Students perform skills using selected vocabulary words

Word Webs

- 1) Place concept on board
- 2) List 2 or 3 categories related to the concept
- 3) Choose one category and list the attributes of that activity
- 4) Have students independently add words to the web
- 5) Then collaboratively add more words and discuss words similarities and differences

Providing many opportunities for practice across content and contexts

- Students should be actively engaged
- Multiple exposures to words in various contexts
Strategies

- Semantic Sorting
- Semantic Mapping
- Strategic Questioning
- Mnemonic Aids
- Keyword Method
- Semantic Feature Analysis
- Vocabulary Self-Awareness Chart
- Vocabulary Cards

Semantic Sorting

- Create networks of semantically related words; synonyms, antonyms, same root, same concept etc...
- Use a graphic organizer

Semantic Mapping

- Visual representation to organize information
- Arrange vocabulary words by topic into categories
- Give students category have them generate words that fit into the category

Mnemonic Aids

- Keyword method one of the most effective mnemonic aids
  - used to expand on unfamiliar words or concepts by making them more meaningful and concrete
  - Combines the use of images, with similar sounding word parts

Keyword Method

- Three Steps:
  1) Recoding
  2) Relating
  3) Retrieving

Strategic Questioning

- Leads to a deeper understanding of words
- Teachers ask questions
  - encourage students to work through meaning of unknown words
  - Solve problems using new vocabulary words in different contexts
Recoding

* Take unfamiliar word and change it to a familiar word that is easily pictured
  - Example: muck - change it to yuck and means dirty

Semantic Feature Analysis

* Chart - students analyze similarities and differences between concepts
  - Goal: students to see how key concepts link to one another
     - in turn will help with overall comprehension

Relating

* Relate the keyword to the unfamiliar word by drawing a picture of the words interacting

Vocabulary Self-Awareness Chart

<table>
<thead>
<tr>
<th>Word</th>
<th>Type</th>
<th>Example</th>
<th>Definition</th>
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Vocabulary Cards

* Goes beyond regular flashcards
  * Front of flashcard: term, definition and picture
  * Back of flashcard: student writes relationship between picture and definition
Knowledge Rating

- Use prior knowledge to figure out unknown words
  1) Teacher provides list of vocabulary words students will encounter
  2) Students rate understanding:
     - Don't know at all
     - Have seen or heard but don't know what it means
     - Think I know what it means
     - Know the meaning

- 3) Students discuss what they already know about words
- 4) Discuss what contexts they have seen the words in
- 5) After discussion write definitions to words
- Have students read text and refer to knowledge rating scale

Graphic Organizers

- Comprehensiveness
  - Establish routine and predictable structure
  - Familiarize students with a set of general organizers
- Coherency
  - Show clear links between concepts
- Creativity
  - Adapt organizers to meet needs of students and goals of lesson

General Guidelines

- Educators need to teach vocabulary directly
- Many research-based methods and strategies to choose from
- Practice is critical to learning vocabulary and generalizing it across subject areas

Graphic Organizers

- Provide structure and organization
- Come in many forms
- Used before, during or after reading
- Three C's:
  - Consistency
  - Coherency
  - Creativity
Appendix B

Explicit Instruction Lesson Plan
Explicit Instruction Lesson Plan

Topic:

Rationale and learning objectives:

Modeling:

Guided Practice:

Checking for Understanding:

Opportunities for Practice with Explicit Feedback:
Appendix C

Reflection
Reflection:

What worked?

What would I change for next time?

What would I keep the same?

Other thoughts about the lesson

What else did I learn after meeting with my colleague?
Appendix D

Cognitive and Metacognitive Strategies
Cognitive and Metacognitive Strategies

Topic:

Text used:

Strategy:

How does this strategy help meet the needs for the lesson?

Steps followed to implement this strategy:

Student response to the strategy:
Appendix E

Digital Recording Self-Reflection
Digital Recording Self-Reflection

Did the students learn what I wanted them to learn, how do I know?

Did the lesson design go as I had planned, how do I know?

Did I readjust parts of the lesson as we went, why?

What would I change for next time?

What would I continue doing next time?

This is what else I learned after meeting with my colleague.
Appendix F

Providing Many Opportunities for Practice
Providing Many Opportunities for Practice

Topic:

Text used:

Strategy Chosen:

How does this strategy help meet the needs for the lesson?

Steps followed to implement this strategy:

Student response to the strategy:
Appendix G

Excerpt from: The Amazon Basin in Transition
Humans have been part of the vast forest–river system of the Amazon basin for many thousands of years, but expansion and intensification of agriculture, logging and urban footprints during the past few decades have been unprecedented. The human population of the Brazilian Amazon region increased from 6 million in 1960 to 25 million in 2010, and the forest cover for this region has declined to about 80% of its original area. Efforts to curb deforestation have led to a steep decline in forest clearing in the Brazilian Amazon, from nearly 28,000 km$^2$ yr$^{-1}$ in 2004 to less than 7,000 km$^2$ yr$^{-1}$ in 2011. However, this progress remains fragile. The river system produces about 20% of the world’s freshwater discharge, and the forest biomass holds about 100 billion tonnes of carbon (C; refs 3, 4), which is equivalent to more than 10 years’ worth of global fossil-fuel emissions. Maintaining the biotic integrity of the biome and the ecosystem services provides to local, regional and global communities will require improved understanding of the vulnerability and resilience of Amazonian ecosystems in the face of change. Here we provide a framework for understanding the linkages between natural variability, drivers of change, responses and feedbacks in the Amazon basin (Fig. 1). Although the basin-wide carbon balance remains uncertain, evidence is emerging for a directional change from a possible sink towards a possible source. Where deforestation is widespread at local and regional scales, the dry season duration is lengthening and wet season discharge is increasing. We show that the forest is resilient to considerable natural climatic variation, but global and regional climate change forcings interact with land-use change, logging and fire in complex ways, generally leading to forest ecosystems that are increasingly vulnerable to degradation.
Appendix H

Promoting Collaborative Involvement
Promoting Collaborative Involvement

Topic:

Strategy chosen:

How does this strategy help meet the needs for the lesson?

Steps followed to implement this strategy:

Student response to this strategy:
Appendix I

Curriculum Planner
## Curriculum Planner

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