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Language of Harry's Wizards: Authentic Vocabulary Instruction

Abstract

This study was the result of a year long action research project within a middle school language arts classroom. The students showed improvement in their vocabulary skills due to this instruction using Harry Potter as a context.

Keywords

reading, reading comprehension, vocabulary, language arts, reading instruction

Disciplines

Children's and Young Adult Literature | Curriculum and Instruction | Education | Educational Leadership | Educational Methods | English Language and Literature

Language of Harry's Wizards: Authentic Vocabulary Instruction

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Adolescent literacy has received increased attention in recent years (Jacobs, 2009). There is a call for more attention on the literacy methods employed to help adolescent students gain more sophisticated mastery of reading skills (Wise, 2009). While much attention has been given to beginning reading, methods that are developed specifically for adolescents have gotten much less attention (Beers, 2007).

Over the past 25 years greater emphasis has been placed in preparing adolescents for post-secondary education (Rouse & Kemple, 2009; Balfanz, 2009). Consequently, middle and high schools have placed greater emphasis on developing academic skills (Rouse & Kemple, 2009; Balfanz, 2009; Jacobs, 2009). As the academic demands have increased so has the need for adolescents to navigate various texts and materials in their coursework (Rasinski & Fawcett, 2008). Given the increased demands for adolescents to read more complex and domain specific texts, strategies that can be used across domains may prove particularly useful.

One area critical to literacy achievement is vocabulary knowledge. The relationship between vocabulary and reading comprehension has a long tradition of study in the field of reading research. Reading research has established a strong link between vocabulary knowledge and comprehension ability (Davis, 1944, 1972; Farr, 1969; Harrison, 1980; Stahl & Fairbanks, 1986; National Reading Panel, 2000).

Carver (1994) found that the percentage of unknown vocabulary words in a text is a function of the relative difficulty of the text. Other researchers (e.g., Sternberg, 1987) assert that one can predict the ability to comprehend a text based on vocabulary knowledge. Following this reasoning, teaching unknown words prior

to reading would directly assist the reader in reducing the relative difficulty of a text passage, thus enhancing comprehension. Several studies have shown that direct teaching of new vocabulary has a positive effect on comprehension (Beck, Perfetti, & McKeown, 1982; McKeown, Beck, Omanson, & Perfetti, 1983; McKeown, Beck, Omanson, & Pople, 1985).

While direct teaching of new vocabulary is a worthwhile method, other strategies are needed to help adolescents develop vocabulary knowledge. Graves's (2006) recommendations based on his review of many previous vocabulary studies include: wide exposure to words, direct instruction of specific words as well as transferrable strategies, and development of word consciousness. Other researchers have emphasized the need for a multifaceted approach to word learning. For example, Beck and McKeown's (1991) review of vocabulary instruction suggests that instructional approaches in vocabulary are more effective when they directly provide definitions using rich context, offering students repeated exposure to new words, and providing classroom experiences that encourage deep processing and active engagement of learners (National Reading Panel, 2000; Stahl & Fairbanks 1986).

Morphological awareness has been identified as a key strategy to foster independent word learning, particularly for the academic vocabulary adolescents encounter in secondary texts (Stahl, 1999). Morphemic analysis involves teaching students the meaning behind common word parts such as prefixes, suffixes, affixes, and roots so students can infer the meaning of new terms. Many studies have explored the use of morphemic analysis in vocabulary learning and research indicates that this strategy is an effective tool for learning new words (Stahl, 1999). Research by Corson (1997)

suggests that teaching morphemic analysis for vocabulary may be particularly useful in encouraging metacognition of academic word learning. Such methods help students to be independent word learners, and may foster increased word consciousness.

Introducing students to word parts is not enough to lead to increased growth in vocabulary and comprehension. As with any other strategy, the ability to teach morphology well is critical for student success. Recent research by Keifer and Lesaux (2010) provides principles that educators can follow to systematically teach morphology as a tool for increased vocabulary knowledge and growth in word consciousness. From these recommendations three distinct processes emerge for classroom practice. First, students need to be taught words well by utilizing classroom practices that provide instruction in worthwhile terms, provide rich contexts, strong modeling, and foster deep processing of new terms. Secondly, methods should be employed that can be used by students independently, and encouraging word consciousness. Third, the instruction in word parts should focus on roots, suffixes, and affixes that are of high utility and can be applied to help adolescents understand new and novel words.

Although there have been mixed findings from early research on teaching morphological analysis (i.e., Baumann, Font, Edwards, & Boland, 2005), more recent studies indicate that “students can be taught various word parts, most often prefixes and suffixes, to derive the meanings of untaught words” (p. 181). Recent research suggests that in order for morphological instruction to prove most useful, word parts with a high propensity to be encountered in literature should be taught (Bellomo, 2009). Brown’s study (1949) identifies 14 “master words” representing 14 common roots and 21 common prefixes. Brown believes these 14 words, due to their inclusion of common roots and prefixes, are key anchor words that would help students unlock vocabulary learning for many additional unknown words they would encounter in academic materials.

Research also suggests that effective vocabulary acquisition strategy requires careful planning, ongoing assessment, and critical application for students (Keifer & Lesaux, 2010; Lubliner & Smetana, 2005; Beck, McKeown, & Kucan, 2002; Pressley, 2002 and Garner, 1994). Since Brown’s list of “master words” includes 14 common roots and 21 common prefixes, the amount of vocabulary to be taught is limited, which is appealing to teachers who are faced with time constraints. Hiebert and Kamil’s (2005) review of effective vocabulary approaches lends support for the use of morphology that could be easily applied to other words, and the use of strong context in word learning. Brown’s study postulates that the morphology included in the 14 “master words” would provide strong linguistic support for text comprehension. In order to introduce these words to the

students, a context is warranted. The context needs to be authentic, include unfamiliar vocabulary, and be accessible to a variety of literacy skills in order to allow teacher scaffolding.

The Study

As researchers we were intrigued by the notion that a morphological vocabulary program originally intended for college students prior to the Common Core State Standards (CCSS) movement may prove useful for the current academic focus of the American secondary schools. Consequently, we sought to integrate high quality vocabulary and morphology teaching into an instructional program for developing word consciousness on the part of adolescent learners. Our main purpose was to explore the effects of a systematic approach to vocabulary instruction with adolescents. Our instructional program integrated the Brown’s list of “master words,” research-based vocabulary approaches; the gradual release model of instruction (Pearson & Gallagher, 1983), and think-alouds (Kucan & Beck, 1997) to help students and teachers explore word consciousness through the lens of metalinguistic awareness. We incorporated the Gradual Release Model of Instruction (Pearson & Gallagher, 1983) as it also requires reflective planning based on assessment in order to develop optimal learning opportunities for students to apply newly learned skills. We chose the familiar *Harry Potter* series by J.K. Rowling as the context in which the roots and prefixes were introduced since Rowling used the principles of Latin roots and prefixes in concocting her spells, charms, and other unfamiliar and made-up vocabulary (Nilson & Nilson, 2006).

Methods

Our study explored pre and posttest measures of student vocabulary knowledge. These measures, piloted in advance of the study with other students, utilized three tasks to explore students’ word meaning strategies:

- word integration task with confidence intervals
- strategy preference rating
- open ended question regarding word-meaning strategies

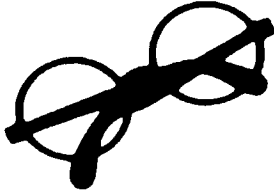
Each of these tasks was administered as a packet to the whole group of students prior to instruction, and again at the conclusion of the study. The study lasted over the course of 24 weeks wherein 60 seventh grade students enrolled in a rural school in Pennsylvania received vocabulary instruction within their heterogeneous language arts classes. Students were taught vocabulary lessons by a preservice teacher, two days a week, utilizing a program called, “The Language of Wizards.”

The meanings of the prefixes and roots were explicitly taught and immediately followed with a think

Figure 1
Modeling Sample with Harry Potter Context

SEVENTH-GRADE LANGUAGE ARTS SCHOOL OF WORDS AND WIZARDRY

Root: *specere*
 Definition: to look, to see
 How it might look: *spec, spect, peep*
 Harry Potter Context: *Spectrespec*



[Luna] was now wearing her free Spectrespecs, which gave her the look of a demented, multicolored owl.

...
 "People expect you to have cooler friends than us," said Luna, once again displaying her knack for embarrassing honesty.
 "You are cool," said Harry shortly. "None of them was at the Ministry. They didn't fight with me."
 "That's a very nice thing to say," beamed Luna. Then she pushed her Spectrespecs farther up her nose and settled down to read *The Quibbler*.

Harry Potter and the Half-Blood Prince, Chapter 7 pp. 138-39

What are *Spectrespecs*?
 How do *Spectrespecs* relate to the root *specere*?

aloud approach in which the preservice teacher shared how he applied his prior knowledge to the context of a text passage from the Harry Potter series. A three-step process for morphemic and contextual analysis of the unknown word was modeled (Figures 1 & 2): 1) break apart the word, 2) reread the passage in which the word is introduced, and 3) think about the meaning of the word in the context of the passage. Several approaches were taken to introduce the Harry Potter words, including a class read aloud of the text, showing clips of the film adaptation of the books as they related to the context of words, adding visuals, and listening to a dramatic reading of the novel on CD, adding an auditory element. This allowed variety in the lessons and accommodated many different learners.

Script for pre-service teacher modeling.

My question as I finish reading this passage is: What are Spectrespecs? First I'm going to look closely at the word and try to break it apart. I recognize the root specere used twice in this word. [Underline "spect" and "spec."] J.K. Rowling must really be trying to emphasize something in this made-up word that she is using! Since I know that specere means "to look" or "to see," I'm going to write that next to the word. So let's think about this in the context of the

passage. If I return to the word "Spectrespecs," I see that it is something that Luna wears, and something that she pushes farther up her nose. I can tell here that Spectrespecs are some sort of object that Luna wears on her nose. When I think about the meaning of specere—"to look" or "to see"—I am going to guess that the Spectrespecs help Luna to see. Since she wears them on her nose, they must be some sort of glasses. This makes sense, because now that I think about it, I've heard people call their glasses "spectacles." [Write "spectacles" next to passage and underline "spect."] Now I realize that "spectacles" and "Spectrespecs" are objects that help you "to see" and "to look."

The detailed think alouds were designed to help students realize the complexity of using the text as a resource for understanding the meanings of words. Multiple guided practice opportunities were provided for students to apply what they learned with the previously taught prefixes and roots. As weeks progressed, this process allowed students to take more control of locating the contextual clues and thinking deeply about vocabulary. The guided practice lessons included additional think alouds, exploration of additional authentic texts (such as newspaper articles or magazines), and

Figure 2
Guided Practice Sample

New York Times Music Review

This passage from a *New York Times* music review describes a concert performed by Christina Aguilera as a “spectacle.” Remember, the root word *specere* means “to look” or “to see.” How can you use this knowledge and the context clues from the passage to define the word *spectacle*?

Passage:

It was a spectacle, to be sure. There were stilts and acrobats, sharp musicians and sharper dancers, and costume changes on top of costume changes. (Sanneh, 2007)

Definition: _____

How does this word relate to the root, *specere*? _____

small group discussions of word and context meanings.

Sample discussion questions for guided practice passage.

- How do we break apart “spectacle”?
- Is this a noun, verb, or adjective? What context clues can we use to figure out the meaning? [Point out that the second sentence explains what the spectacle is.]
- What do you do when you come across stilts and acrobats, etc.? [Scaffold students to consider how these are all things to stop and look at.] Consider the “spectacle” as a noun and the meaning of its root, “to look” or “to see.” What do you predict is the meaning of “spectacle”?
- A spectacle is something that can be seen or viewed, especially something of a remarkable or impressive nature. This relates to the root *specere* because a spectacle is something that you stop and look at or view. Christina Aguilera’s show was a spectacle because of these impressive stunts. These stunts are something that you would be interested to see or to look at.

The independent practice activities were carefully scaffolded to provide additional opportunities to work with the Language of Wizards lessons. The indepen-

dent practice provided students with engaging hands-on activities to demonstrate their understanding of the word meanings and were aimed at helping students develop an understanding of the relationships between words and their meanings (Harmon, Buckelew-Martin, & Wood, 2010). In an effort to allow the students to demonstrate how the Language of Wizards approach assisted in their personal vocabulary development, students conducted word hunts in additional texts, and developed individualized vocabulary lists. Additionally, students were encouraged to discover new words through weekly homework assignments that required them to look for new words that used the roots and/or prefixes that were discussed that week. Students were encouraged to search for words not only in their class novels and textbooks but also in texts they read everyday, including comic books, newspapers, magazines, websites, and even cereal boxes. They were also asked to note the word and its definition as well as explain how the word connects to the meaning of the prefix and/or root.

Throughout the study students seemed engaged in the practice opportunities. For example, one student reflected on the word “incoherent” that he encountered while reading an independent novel. After correctly identifying two prefixes used in the word, *in-* and *co-*, the student wrote that the word relates to its prefixes

“because it means it isn’t together; you can’t hear it.” This practice allowed the students to independently apply the strategies modeled by the preservice teacher during the “think aloud” and during guided practice. Students were able to choose authentic texts at their own reading levels, and to self-select vocabulary words that they struggled to understand. They contributed these “found words” to the class word wall.

As the study progressed, the preservice teacher introduced a review activity called “playing with words” to provide additional practice with learned prefixes and roots and vocabulary words (Figure 3). Students used PlayDoh to develop symbols for the prefixes and roots, as well as representations of vocabulary words. PlayDoh provided visual and kinesthetic means of helping students commit individual word parts to memory as they made a variety of connections to word parts and the vocabulary that use them. While students were familiar with the strategies of morphemic and contextual analysis, anchor charts around the classroom provided additional support.

Figure 3
Playing with Words



In this example of a student’s work, the center creation represents a symbol for the prefix *inter-*, which means “between.” The two surrounding creations represent visuals of the words “intercept” and “interview,” which both contain the prefix *inter-*. The students compared their images of vocabulary words with the symbol for its word part. As students made both visual and verbal connections between word parts and the definitions of vocabulary words, they gradually took control of the process of morphemic and contextual analysis.

Measures

Pre and posttest measures to explore students’ word meaning strategies were employed: a word integration

task with confidence intervals, a strategy preference rating, and an open ended question regarding word meaning strategies.

The word integration task utilized a multiple choice format to assess students’ word identification strategies. We determined the terms on the word integration task by using Brown’s 14 “master words.” One concern with using the “master words” related to whether the words would be unfamiliar to current seventh grade students. We interviewed preservice teachers and consulted textbooks at the students’ grade level to determine if the words were aligned appropriately with grade level expectations and standards. After review, it was determined that the 14 items were appropriate for current seventh grade students. Because the study utilized pre and posttest measures we decided to focus on students’ growth in word meaning strategies over time. Thus, we determined that all 14 items would be administered at the start of the study, and any words that were correctly identified with full word knowledge would be discarded in the analysis of the final posttesting, focusing instead on words that seemed the most difficult for the majority of the study participants.

Students were provided with a vocabulary word and four potential definitions of the “master word.” The choices of definitions for each “master word” were designed to represent the different ways that prefixes and roots can be used to determine word meanings. Students’ selections were examined to determine which strategies they were using to uncover the definition of the word through the use of a coding system. For example, one of the “master words,” *detain*, represents the prefix *de-* and the root *tenere*. The four choices on the pretest included: 1) the definition of a word that used the prefix only – *depose*, 2) the definition of a word that used the root only – *pertain*, 3) the correct definition of the “master word” using the prefix and root – *detain*, and 4) a choice definition that reflected neither the meaning of the prefix nor the root.

The word integration task also included a confidence interval. After each term students were provided with a choice to rate their confidence in word knowledge by selecting one of three options that characterized their perceived level of word knowledge. (Figure 4.)

The second task in the study aimed at determining students’ preferred strategy choice when encountering an unknown word. A survey was administered to determine how students rated the “helpfulness” of common word decoding strategies, including roots, prefixes, suffixes, inflectional endings, compound words, contractions, syllabication, and base words. The students rated each strategy from 1 (not helpful) to 5 (most helpful).

The third task was designed to examine the metalinguistic and metacognitive strategies students used when determining word meanings. The task utilized an

Figure 4
Assessment Information

<p>Word Integration Task with Confidence Intervals</p>	<p>Example of Question on Word Integration Task</p> <p>1. Detain means:</p> <p>A. to argue a point (<i>definition reflects neither prefix nor root of detain</i>)</p> <p>B. to hold down or keep in custody (<i>correct definition of detain using prefix and root</i>)</p> <p>C. to have a relation to something else (<i>definition of pertain – uses root, tenere</i>)</p> <p>D. to remove from power (<i>definition of depose – uses prefix, de-</i>)</p>																																																											
<p>Strategy Preference Rating</p>	<p><i>Based on the vocabulary identification strategies you use, how helpful are these word parts when trying to decode an unknown word in text:</i></p> <table border="1" data-bbox="490 584 1426 1170"> <thead> <tr> <th></th> <th>Often</th> <th>Usually</th> <th>Sometimes</th> <th>Seldom</th> <th>Never</th> </tr> </thead> <tbody> <tr> <td>Base words</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Root words</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Prefixes</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Suffixes</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Inflectional endings</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Compound words</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Contractions</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Syllabication and Accents</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Often	Usually	Sometimes	Seldom	Never	Base words						Root words						Prefixes						Suffixes						Inflectional endings						Compound words						Contractions						Syllabication and Accents					
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open ended question aimed at providing students an opportunity to identify their own cognitive processes when dealing with unknown words. Their responses were examined to see if they showed strategic thinking, metacognition, and/or confidence in finding word meanings. This task attempted to create a vocabulary measure that was more diagnostic of students' mental processing.

Analysis

The purpose of this study was to employ a vocabulary method that would teach words well while also encouraging students to be independent and reflective of new word learning. Towards that end, pre and posttest qualitative and quantitative measures were examined to determine if students' responses showed changes in their ability to fully integrate word meanings over time and their self-reported strategy use for unlocking meanings of unknown words.

After each multiple choice question students were asked to rate their confidence in knowing the meaning of the word. Thus, the multiple choice test and the con-

fidence rating provided quantitative measures of students' word integration ability and confidence in word knowledge. In addition to the multiple choice items students also responded to a survey question to rate their perception of the usefulness of common word decoding strategies. By examining trends in the word integration results, student confidence ratings, and student self-reported preferences for word making strategies correlations between these measures were examined.

Qualitative data were also examined through an open ended question in which students were asked to describe what they did to find the meaning of an unknown word. We examined student responses prior to the study and at the conclusion of the instructional period to determine if students had shown changes in their word making strategy over time, and whether their responses indicated a change in metacognitive awareness regarding different word attack strategies.

Fourteen multiple choice questions aimed at measuring students' strategies for determining word meanings. Results of the pretest indicated that most of the

“master words” were familiar to students, with over 50% of all study participants demonstrating full word integration knowledge for the majority of the terms. However, five vocabulary words proved difficult for students, with less than 50% of the class providing fully integrated word knowledge in the packet administered at the onset of the study.

At the conclusion of the study all terms were reassessed. There were no terms that showed deteriorating word integration skill. However, the five terms that indicated lower word integration skills at the onset of the study did show changes.

In addition to examining changes in word integration students’ ratings in word confidence were also examined. Results indicated that students improved in their confidence in knowing words ($p < .001$). While students’ confidence levels increased a great deal, this change in confidence did not correlate with improved performance. In fact, in some cases, students who increased the most in confidence showed more deterioration in their performance on the word integration task.

Survey responses on preferred word knowledge strategies gathered at the onset and conclusion of the study were examined through a Chi square test. As mentioned previously, the survey data provided students with an opportunity to rate each strategy on a scale of 1 to 5 where 1 was least helpful, and 5 represented the most helpful strategy to use in finding a word’s meaning. Students also had the option of selecting a response for “don’t know.” Chi squared test data showed significant changes for preferred strategy use correlated with changes in word integration for the following word strategies: base words, $p = < .05$, root words, $p = < .01$, and prefixes, $p = < .01$.

We further explored the changes in identified strategy use to determine if any trends were apparent in student responses for those strategies (base words, root words, and prefixes) that correlated with improved performance on the word integration task (Table 1). As can be seen in the table, for base words, most of the change in student responses related to an increase in students selecting base words as the highest rat-

ing, “helpful.” Yet, while the data showed categorical change, the change was not systematic across all students. Fewer students were neutral about the strategy, but there was movement in both directions from helpful to not helpful. Therefore, while base words represented a significant change in terms of students’ perceptions on the usefulness of the strategy for unlocking new word meanings, it did not represent a systematic change in an upward trending direction.

In the second area, root words ($p < .01$), most of the change in survey responses related to students who moved from the 1, “least helpful” response to category 4. Originally eight students selected “don’t know” when rating root words. At the conclusion of the study, only one student selected “don’t know.” However, despite the decrease in students who did not know how to rate root words, the data indicated a dramatic increase in the neutral responses. Therefore, while the change in root words was significant, this too appears not to be a systematic change in students’ rating of the word meaning strategy.

Finally, for prefixes ($p < .01$), the largest change occurred in the number of students who selected the highest rating of “very helpful.” Prior to instruction, 19 students selected prefixes as a very helpful strategy. At the conclusion of the study the responses changed to 28 students providing “very helpful” as their rating for prefixes. In the rating of 4 out of 5 originally 10 students selected prefixes as a four, and at the conclusion 13 rated it in this category. Thus, students’ preference for using prefixes appears to indicate a positive trend in preference, and represented the most robust change of all three strategies.

Figures 5 and 6 illustrate students’ preferred word knowledge strategies.

In addition to the quantitative data, the open ended responses were also examined for changes between the onset and conclusion of the study. Student responses were rated on a three-point scale. Ratings of “low” were given to student responses that showed very little integration of etymology strategies in finding the meanings of unknown words. “Partial” ratings were given to open ended responses that showed some etymology use in

Table 1
Changes in Strategy Ratings

Preferred Strategies, Week 1:	Don't Know	Often	Usually	Sometimes	Seldom	Never
Base Words	4	36	18	30	9	4
Root Words	14	27	32	14	11	2
Prefixes	5	34	18	21	14	7
Preferred Strategies, Week 7:	Don't Know	Often	Usually	Sometimes	Seldom	Never
Base Words	7	25	33	20	11	4
Root Words	2	33	24	29	7	5
Prefixes	4	51	24	24	5	2

Figure 5
Preferred Strategies, Week 1

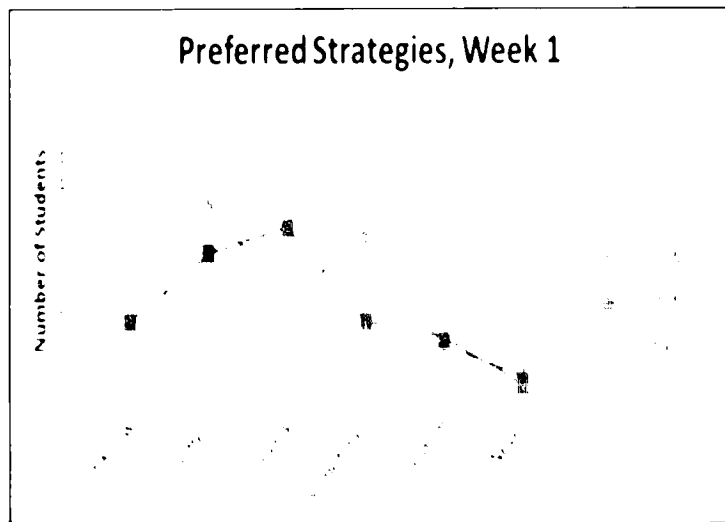
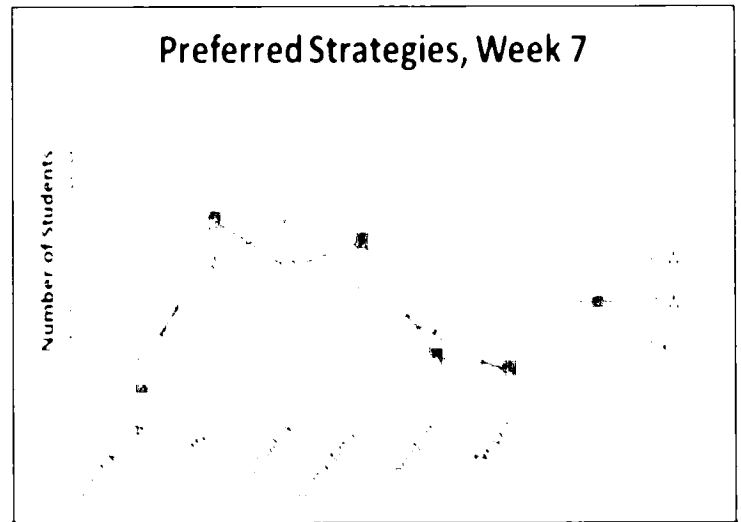


Figure 6
Preferred Strategies, Week 7



word identification (Table 2). Finally, ratings of “full” were given to responses that showed an integrated approach to etymology strategies. Inter-rater reliability was established at 99%.

Table 2
Open Ended Response Ratings Percentages

Rating	Week 1	Week 7	Change
Poor	55%	22%	-33
Partial	37%	57%	+20
Full	8%	22%	+14

Students’ open ended responses showed decreases in the percentages of poor word etymology integration strategies. Students showed increases in partial and full word integration strategies. Therefore, it appears students were more adept at expressing clearer strategies for using word etymology skills to unlock the meanings of unknown words. In addition to the statistical responses, specific examples of student responses merit attention. Table 3 details individual student responses and their changes.

These examples demonstrate that many students moved from minimal efforts at determining word meaning to more systematic approaches. Further, many responses indicate a use of the strategies taught in the Language of Wizards program. Taken together with the change in students’ preferences for finding word meanings as reported on the survey task, the open ended responses point to greater linguistic awareness of word meaning strategies.

Discussion

This study sought to determine if students changed in

their strategy use as a result of an intentional vocabulary instructional program. The areas that showed significant change— base words, root words, and prefixes— all strongly suggest that students did improve in their metacognitive awareness of strategy use as a result of instruction. These three areas were those most emphasized throughout the program. It is not surprising then, that those strategies that were taught resulted in greater awareness on the part of students.

Other areas of word knowledge showed no significant changes, inflectional endings, etc. Due to the richness of the instruction employed in this study—the gradual release model, think alouds, using the “master word” list—students were exposed to a strong instructional program. Yet exposure alone did not result in greater confidence on the part of students in using these word elements. Vocabulary is multidimensional, and the results of this study point to the notion that teaching vocabulary strategies thoroughly involves a great commitment of time and systematic instruction. If we hope to advance student knowledge of word etymology as a method for improving vocabulary learning even more intentional instruction across the wide variety of word features should be developed.

In relationship to the strategies that showed the most change in student preference, the results indicate that base words and root words showed significant changes but not systematic changes in preference of students, whereas prefixes showed both significance and a systematic change in positive preference from students’ ratings. Considering this finding, some may conclude that emphasizing prefixes over base words and root words in etymology leads to the most significant increase in changes of students’ metacognitive skills. Even though there was change in multiple areas but noting that the prefixes showed systematic, positive change, we conclude that any change in student preference points

Table 3
Individual Student Responses to Open Ended Task and Changes

Week 1		Week 7		Change
Open Ended Responses	Rating	Open Ended Responses	Rating	
<i>I asked my friend.</i>	1	<i>When I'm reading I usually look at a word and then the base word and then the prefix. If I can't find it I then use roots or suffixes or other clues in the sentence.</i>	3	+2
<i>I don't do anything special.</i>	1	<i>First I read the word again. Then I read the whole sentence again. Then I'll break down the word.</i>	3	+2
<i>I skip it and worry about it later.</i>	1	<i>I look for context clues or I pick apart the word. Such as: Intermittent, I would see the prefix "inter" and the base "mitten". I know "inter" is between or among and "mittere" is to send, so it would mean to send between intervals.</i>	3	+2
<i>I usually make sure to look at the prefix or the suffix. If that doesn't help then I keep rereading the words</i>	2	<i>I always look at the prefix and find the meaning. Then I look at the base or root word and find the meaning. I put the two meanings together and try to form a definition.</i>	3	+1
<i>I try to sound it out and interpret the word. If I can't do that, I look in the same sentence, or one sentence back, or one sentence forward for some kind of hint to the definition.</i>	2	<i>I read ahead/back and see if there are any connections to that word. If not, I break it apart and look for the prefixes, root, or suffixes. Then I put it together and see what it means.</i>	3	+1
<i>I look it up in the glossary or the dictionary.</i>	1	<i>break it apart; read the base/root word</i>	2	+1

towards growing awareness of the utility of certain word solving strategies. Consequently, students demonstrated metacognition in relation to etymological strategies.

In examining the changes in survey responses coupled with the changes in students' open ended responses,

it appears that systematic instruction in etymology skills can improve students' awareness of word meaning strategies. Further, the higher confidence ratings reported by students indicate a positive self-efficacy in the use of such strategies. Yet, importantly, a growing

awareness of etymology does not appear to be enough to boost performance on traditional multiple choice measures of word knowledge.

Students who reported strategies as more useful showed greater confidence in their word knowledge, yet there was no correlation between strategy use, confidence, and accuracy. Indeed, in some cases, students' increase in confidence was paired with deteriorating performance on the word integration task, raising two important questions: What is needed to raise strategy awareness, confidence, and accuracy? Or, perhaps more importantly, what other measures of word knowledge may be employed to more fully capture the mental processes employed by readers when unlocking vocabulary learning?

We hope that this study has contributed to our understanding of the crucial role of authentic and systematic vocabulary instruction in developing adolescents' vocabulary knowledge and comprehension. While research has been clear regarding impact of effective vocabulary instruction on students' academic achievement in general, and reading achievement in particular, further research is warranted to determine the kinds of vocabulary instruction that are sufficiently intense and effective in ensuring adolescents' vocabulary development.

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