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Teaching vocabulary within the context of literature

The most effective vocabulary instruction is the kind that also improves comprehension. When Chris, Jan, and Woody applied the concepts of procedural and conditional knowledge to secondary students' word learning, the increased comprehension was very encouraging.

"For homework tonight, read chapter one and do the vocabulary exercises," Chris would tell his high school English students. Most of them would dutifully go home, read, look up the vocabulary words in the dictionary, use them in a sentence of their own, and come back the next day none the wiser. Chris reasoned that if the students looked up difficult words before they read the assignment, they would also comprehend the reading much better.

But they did not. Chris's students rarely made the connection between the vocabulary studied and the fiction they read. Chris found this out over 3 years by gathering data on his students' vocabulary and their comprehension. While their knowledge of word meanings improved, his students' comprehension of the literature selections they read did not. Chris's informal findings are corroborated by research which suggests that students' learning of vocabulary does not necessarily result in improved text comprehension (Beck & McKeown, 1991; Stahl & Fairbanks, 1986).

Chris struggled with this dilemma for a couple of years. He had talked to colleagues and taken university classes, but no one was able to give him the help he needed until he began collaborating with Jan and Woody, two university instructors. Chris met Jan on Parents' Back to School Night and shared his concerns with her. As it turned out, Jan was very familiar with the research on vocabulary learning and instruction. The articles her daughter brought to him the next day piqued his curiosity— articles written by people who had been wondering many of the same things that Chris had.

Those first few articles started the collaboration process for Chris, Jan, and her colleague, Woody. After much discussion and reading, Chris set out to develop a vocabulary instructional unit that would also improve his students' comprehension.

With the help of Jan and Woody, Chris developed, implemented, and evaluated a unit in which he taught his students how to select appropriate important words from a selection, and why those words were important to the selection. Chris taught this procedural and conditional knowledge about words to one high school class, and his traditional vocabulary unit to another.

In this article, we first present some background for why Chris developed the alternative instructional unit the way he did. We then present information about the students in Chris's study and explain the alternative and traditional instructional units in detail. Next we show evidence for the effectiveness of Chris's alternative unit. Last, we discuss key characteristics that made the unit successful.

Theoretical grounding

Most people recognize the important relationship between knowing words and reading well. And, in fact, the relationship between vocabulary knowledge and reading comprehension is well established in the reading literature (Davis, 1944, 1968; Spearrit, 1972; Thorndyke, 1973). In general, studies have shown that students with extensive vocabularies do better on reading comprehension tests than students with smaller vocabularies. This makes sense intuitively in that we would expect students who knew more words to understand what they read better.

However, several studies have shown that having students complete vocabulary exercises or look up words in a dictionary may improve their vocabulary knowledge, but not their reading comprehension (see Stahl & Fairbanks, 1986 for a review). Such instruction tends to develop in students a superficial understanding of words, which does not improve comprehension. Rather, students appear to need a thorough and deep understanding of words to improve their reading comprehension (Anders, Bos, & Filip, 1984; Beck & McKeown, 1991; McKeown, Beck, Omanson, & Perfetti, 1983).

The question arises, then: What kind of vocabulary instruction is effective for helping students improve their reading comprehension? In a review of the research, Beck and McKeown (1991) named several features of effective instruction. Specifically, they identified extensive practice with words, breadth of knowledge about the words including both definitional and contextual knowledge, and active student engagement leading to deep processing of the words. And, in several studies where Beck and her colleagues used these features to teach vocabulary, comprehension was positively affected (Beck, Perfetti, & McKeown, 1982; McKeown et al., 1983; McKeown, Beck, Omanson, & Pople, 1985).

This kind of instruction appears to help students learn words better, thereby increasing their declarative knowledge about words. Such knowledge, or "knowing that" *pusillanimous* means *cowardly*, for example, is the kind of knowledge most commonly thought about in terms of vocabulary knowledge.

But we believe that other kinds of word knowledge are important for helping students understand the selections they read. For example, students benefit from learning specific strategies for figuring out the meanings of unknown words on their own (Beck & McKeown, 1991; Beck, McKeown, McCaslin, & Burkes, 1979; Nagy, Herman, & Anderson, 1985). This kind of learning relates to procedural knowledge about words, or "knowing how" to use key words in a given sentence to figure out an unknown word. Although procedural knowledge about words is less commonly taught, students appear to benefit from such instruction (Beck et al., 1979; Stahl & Fairbanks, 1986).

There is still another kind of knowledge about words that is not commonly taught but that we believe is critical. This conditional knowledge (Paris, Wixson, & Lipson, 1983) helps students "know why" they are learning certain words, and how and why those words are important to their literature selections. Research has clearly indicated that students benefit from being told why they are learning something and how their learning can help them (Pressley, Goodchild, Fleet, Zajchowski, & Evans, 1989).

The three of us applied the concepts of procedural and conditional knowledge to students' word learning. We reasoned that when students learn procedural knowledge about *how* to select particular

key words in a literature selection, and conditional knowledge about *why* those words are important, then their learning of those words will have an impact on their understanding of the selections they read.

Our goal for the current study was to develop an alternative instructional unit that would provide students with this procedural and conditional knowledge about words. We contrasted this unit with the traditional vocabulary unit Chris had taught in previous years in which he chose words related to literature selections for students to study, but students studied them apart from the selections. Chris taught the alternative unit to one class of students and the traditional vocabulary unit to another class.

Student population
Students in our study were 43 tenth-grade students from two classrooms in a middle-sized private school in a large western U.S. city. The school drew from primarily middle to upper-middle income families, and 95% of the students enroll in college upon completion of their high school education.

Both English classes used for this study were taught by Chris. Both classes consisted of students who chose to take the course called Action and Adventure. This class, like all other English courses in the school, was an elective. Students were not grouped by ability. However, because of the homogeneous population of the school, it is reasonable to assume that students in these two classes also formed a homogeneous group in terms of ability as well as interest in the course. All students enrolled in both classes participated in the study, as it was considered part of the instructional program for the course.

What students know about choosing important words
Before the study began, all students in both sections of Chris's Action and Adventure course were given an Important Words Test. We developed this test to get a sense of students' initial understandings about important words and how they relate to their reading selections. Chris asked students to

read "The Secret Life of Walter Mitty" (James Thurber, 1942). Then they (a) identified 5-10 words that they thought were important to the story, (b) wrote why they chose the words they did, and (c) identified each word as "unknown," "acquainted," or "established" in their vocabularies (Beck et al., 1979). Unknown words were those that students could not recall seeing before. Acquainted words were those that students recognized but could not necessarily define. Established words were those that students immediately recognized and could readily define.

Results from this pretest showed that students generally selected particular words as important to a selection simply because they did not know their meanings. Students wrote repeatedly, "I picked these words because I didn't know their definitions," "I've never seen them before," "I had no clue to their meaning." Some students applied even more creative logic. One student wrote, "*zeal*—I think the word *zeal* is the most important word because it is appealing and catches the eye and it does so because it starts with the letter *z*. I think that makes it very eye-catching, and it doesn't sound anything like the definition." Interestingly, 48% of the words students identified as important were ones they marked as "unknown." Only 17% of the words students chose as being important to the selection were ones they thought they were familiar with.

What we found here, then, was that students chose words as important simply because they did not know what they meant. We did get a sense, however, that students were at least aware that important words might include words related to the characters, themes, plots, or settings of a selection. While 66% of the students cited that they chose the words because they did not know what they meant, students also cited the following reasons: (a) the words described characters (20%), (b) the words described the plot or story action (16%), (c) the book "picked them," (9%), and (d) the words described something (7%). Thus, some students had a sense that choosing important words from a selection should relate to critical elements in the selection.

Table 1
Overview of materials, instruction, and tests

Phases	Books read	Who provided support	Who identified important words	Tests
Weeks 1–4	*The Spy Who Came in from the Cold*	Teacher	Teacher identified important words	Vocabulary and comprehension
Weeks 5–8	*The Call of the Wild*	Group	Student groups identified important words	Vocabulary and comprehension
Weeks 9–10	*Tarzan of the Apes*	None	Individuals identified important words	Comprehension

Overview of the instructional units
An overview of what was common to both vocabulary instructional units is shown in Table 1.

In Phase One of the unit, all students read *The Spy Who Came in from the Cold* (John Le Carré, 1963). For each chapter, Chris selected the important words for students to learn. Students in both classes were given the same list of words to study. Each day they reviewed and discussed the words. They recorded them in vocabulary notebooks. They also wrote notes in the margins when they felt they found an important point, idea, or theme in the selection. After students finished reading this first book, they completed a comprehension test on it.

Phase Two of the unit took place during weeks 5 through 8, during which the students read *The Call of the Wild* (Jack London, 1905). They were grouped together, and together they chose their own words to gether, and together they chose their own words to study. Chris provided instructional support at this stage by helping groups clarify their choice of words. At the end of week 8, they completed their reading for *The Call of the Wild* and took the comprehension test on it.

Finally, in Phase Three of the unit, students read *Tarzan of the Apes* (Edgar Rice Burroughs, 1912) and worked independently to select their own words and discuss the selection without any teacher guidance. In week 10, *Tarzan of the Apes* was completed, and students took a comprehension test on it. The purpose of this last test was to see whether stu-

dents would apply the methods they learned to a selection they read on their own without teacher or peer support.

After the instructional units were complete, Chris asked students to write down briefly their perceptions of the value and usefulness of the unit they completed, compared to the use of standard vocabulary workbooks.

Specific activities for the alternative instructional unit
The alternative instructional unit was designed from research on effective vocabulary instruction which included (a) fairly thorough knowledge about the words important to an upcoming selection (McKeown et al., 1983), (b) use of multiple exposures to words (Beck & McKeown, 1991), and (c) use of context sentences (Stahl & Fairbanks, 1986).

Phase One of the alternative instructional unit modeled for students how to select important words relevant to a selection and how to learn those words at a fairly deep level. Each day during the first 4 weeks, Chris listed a group of important words on the board that students would encounter in the upcoming chapter of *The Spy Who Came in from the Cold* and told students why he had chosen those words.

Chris told students to use three criteria for selecting important words from a selection: (a) the word must not be established in their vocabular-

ies, (b) the word must be one that is actually used in the selection, and (c) the word must accurately describe a key character, important event, idea, or theme in the selection. For example, the spy Leamas was a cynical man. Therefore, *cynical* would be an appropriate word to choose because most students may not know what the word means, it is actually used in the selection, and it does accurately describe a main character. On the other hand, *optimistic* would not be a good word to choose even if it were unknown. While it is a word actually used in the selection, it describes neither Leamas nor the other characters well.

Next, Chris instructed students to read the assigned chapter for homework. As they read it, they were to underline each important word as they encountered it, and to predict the word's meaning from the context of the story. They were also instructed to look up the word in the dictionary and to select the definition appropriate to the context and then to bring that definition to class the next day.

The following day, Chris integrated his vocabulary instruction into the discussion of the reading selection. Students read each word aloud in context along with its definition. Then the word was discussed as it directly tied into the plot, theme, and characters of the story. For instance, the vocabulary words *cynical* and *vengeance* were discussed within the context of the character Leamas. Chris and his students discussed how Leamas was a *cynical* man bent on *vengeance*. Leamas's cynicism was related to his profession, where the motto was "Trust no one." These ideas, including Leamas's desire for revenge, were discussed and related to a major conflict in the story, his desire to destroy his nemesis, Mundt. After this discussion of the story, Chris gave the next day's reading assignment, along with a list of the important words for that reading.

Phase Two of the alternative instructional unit was designed to gradually release responsibility for the vocabulary activities so that students could select and learn important words on their own (Pearson & Gallagher, 1983). Beginning about the fifth week, Chris placed students in small groups and assigned the groups to find their own impor-

tant words in each chapter of their new novel, *The Call of the Wild*, and to justify why they chose those words. The goal here was for students to internalize the vocabulary selection process and to understand the relationship between their study of important vocabulary words and their improved comprehension of the story.

This initial phase of gradual release of responsibility from teacher to students took about 2 weeks. Working together, students selected their own important words and justified them to each other and to Chris. At first, only a few students were able to find appropriate words. Some said they did not know what Chris was asking them to do. Others chose words but could not justify their choices. Still others said they did not know which words were important.

Chris provided scaffolding and support during this time, using words selected by students and helping them justify why they had chosen them. For example, he asked students: "Does the word make sense in this context? Does the word describe the character accurately? Does this make sense according to what the character actually did? How do you know?" This type of coaching by Chris continued, and over time, more students learned to select appropriate words.

In Phase Three, students developed independence in using their new strategies for selecting important words. Beginning on the ninth week of instruction, they worked alone without Chris's guidance or peer support to select important words for the novel *Tarzan of the Apes*. Thus, Chris released complete responsibility to each individual student for selecting words and defending them.

Specific activities for the traditional instructional unit
The traditional instructional unit used procedures similar to those Chris had used in previous years. It was developed to provide instruction similar to the alternative unit with three exceptions. First, Chris did not give students the criteria for the selection of their vocabulary words. Second, he did not ask students to find definitions appropriate to the context of their literature selections. And third,

he did not discuss vocabulary words within the context of the literature discussion.

In Phase One of the traditional instruction, each day Chris listed a group of important words on the board, the same words he presented to the alternative group. He told students that these words came from the reading they would be doing and that looking the words up before reading the story would help them understand their literature selections better. As part of their homework, students were instructed to look up the words in the dictionary and then to write original sentences using the words. They were also instructed to read the assigned chapter for the next day.

The following day, Chris reviewed the meanings of the vocabulary words and their sentences with his students. First, he asked students to read their definitions and sentences aloud. Because they did not use the context of the literature selection to help them identify the appropriate definition of the words they looked up, they used different definitions and contexts for the words. For example, when the word *brood* was provided by Chris, students in the alternative group focused on the definition of *brood* appropriate to the cranky old librarian, Miss Crail, in *The Spy Who Came in from the Cold*. However, many students in the traditional group recorded the definition of *brood* as "to sit upon, as a hen on eggs."

When students noted discrepancies in their definitions and wondered who had the right definition of a word, they were directed to write down all of the definitions in question. After the words were reviewed in this way, Chris led a group discussion about the reading for that day.

In Phase Two, beginning in the fifth week of traditional instruction, Chris told his students to choose their own words from each chapter of the next novel, *The Call of the Wild*. This method was similar to the Vocabulary Self-Selection Method (Haggard, 1982) where students are encouraged to determine their own "important words." The purpose of this activity was to parallel the alternative instruction in allowing students to choose their own words.

Chris broke the class into small groups, and told

students to select words they thought the class "ought to know." Then, he told the groups to identify what they thought were the most important passages and to explain why they thought those passages were important. Then Chris instructed the groups to find out all they could about the characters in the selection by rereading particular passages. Even though these passages contained the important words selected, students did not incorporate these words into their discussions.

Phase Three began in week 9. Students worked without teacher support or intervention throughout the reading of *Tarzan of the Apes*. They were assigned to choose their important words, but did not discuss nor justify why those words were chosen.

Results of the Instruction
A vocabulary test was administered as a pretest at the beginning of the study and again as a posttest after the first two novels, *The Spy Who Came in from the Cold* and *The Call of the Wild*, were read. We developed part I of the vocabulary test to look at students' perceptions of their level of knowledge about 20 words of primary importance targeted from these two books. Here students rated how well they knew the meanings of those words determined ahead of time by Chris to be most important to the selection. These words described the main characters, ideas and events in the selections (see Blachowicz, 1986). Students were directed to mark whether each word on the list was in the unknown, acquainted, or established portion of their existing vocabularies.

At the beginning of the study, 11% of the words in part I of the vocabulary test were identified as established by both the alternative and traditional groups. Thus, students began the study with similar ratings of their level of knowledge of the 20 words from the two selections. At the end of the study, though, students in the alternative group identified 60% of the words as established, while students in the traditional group identified only 39% of the words as established. So, at the end of the instructional period, students in the alternative group were more confident in their knowledge of the important vocabulary words than were students in the traditional group.

Table 2
Means (and standard deviations) on comprehension tests for alternative and traditional groups

Vocabulary instruction group	Books read		
	The Spy Who Came in from the Cold	The Call of the Wild	Tarzan of the Apes
Alternative	81.58 (13.82)	89.63 (9.38)	79.63 (18.04)
Traditional	70.20 (14.82)	82.41 (11.01)	73.20 (13.12)

Part II of the vocabulary test was a multiple choice test of 55 words that we determined to be of secondary importance to the two novels. Words of secondary importance were those that described minor characters and subplots in the two novels.

We used an ANOVA to compare students' performance on the pre- and posttest of part II of the vocabulary test. Results revealed a significant interaction between instruction and vocabulary test scores, $F(1,41) = 9.12$, $p<.05$. The alternative group scored the same on the vocabulary pretest as the traditional group ($M = 41.32$, $SD = 11.15$), ($M = 41.50$, $SD = 8.99$). But Newman-Kuels post hoc analyses showed that on the vocabulary posttest, the alternative group ($M = 63.37$, $SD = 15.64$) significantly outperformed the traditional group ($M = 54.08$, $SD = 9.81$).

Part III of the vocabulary test assessed whether students actually knew the meanings of the words they had identified as established in part I. Students were instructed to define each word they identified as established, and to use each word in a sentence.

We evaluated how accurately students defined the words that they said were established. We found that in the alternative group, students accurately defined 59% of those words that they identified as established, and in the traditional group, students accurately defined 57% of their established words. However, it is important to remember that while these percentages are comparable, the total number of words students accurately defined was greater for the alternative group, since they identified more words (60% versus 39%) as established.

Furthermore, analyses of the contextual sentences students generated for their established words indicated that more than half of the students in the alternative group used story information in their sentences, while only one of the 24 students in the traditional group used such information. For example, one student from the alternative group referred to *The Spy Who Came in from the Cold* when she used the word *dispassionate* in "Leamas was *dispassionate* to Liz at first." Another student wrote, "The old lady librarian *brooded* over Leamas' groceries." These were typical responses from students in the alternative group.

Conversely, students in the traditional group made no connection between the words they defined and the stories they read. This resulted in sometimes awkward and inaccurate sentences, e.g., "Todd always has to be the *primordial* of the group," and "There is *brooding* in the spring."

In addition to the vocabulary test, we developed a comprehension test for each of the three books read. Each test consisted of four short-answer items and one essay question. Questions targeted main characters and themes and required students to integrate information from the entire text.

Responses were scored holistically using the following criteria: (a) the question must be clearly and directly answered, (b) specific examples from the selection must be provided, and (c) adequate explanations must be presented to show how the examples relate to the questions. A 100-point scale was used to standardize scores for all three tests.

Using an ANOVA, we compared group performance on the reading comprehension scores of the three story selections. Results showed a main effect for instruction, $F(1,41) = 6.89$, $p<.05$. The alternative group scored significantly better on all three of the comprehension tests than did the traditional group (see Table 2). Thus, students who received alternative instruction improved their comprehension of the selections more than students who received traditional vocabulary instruction.

Finally, we also asked students to comment in writing on the perceived value and usefulness of the instructional treatments. Students in the alternative group reported that they liked the alternative instruction better than the traditional instruction they had received the year before. They said they felt that they learned the words better and that they comprehended the stories better than they did in the past. For example, one student said, "I like this way better because I think it helps me understand the book better. Last year I did most of my vocabulary, but the next week I just forgot it all. But this way some of the words help me remember the story." Another student said, "I scored A LOT better [on the vocabulary tests] last year as far as grades go than this year because I had a definite definition that I'd memorize and know they would be in the test. This year, it's like I know the definition, I just don't know what my choices mean. I like this year's system better, though, because it helps me understand what I read."

How and why the alternative instruction worked so well

It is important to examine carefully the instructional units we developed to identify which parts contributed to students' increased vocabulary knowledge and comprehension performance. The differences between the alternative and traditional instructional units involved three elements that we think are key to developing conditional knowledge about word learning and improved comprehension.

1. Chris provided specific criteria for the selection of words. We think these criteria were crucial because they provided students with a structure for word learning within the context of the literature selection. Students were taught to select words that directly related to important elements of the selection—words that accurately described or summarized a character or words that summarized the plot or the setting. Chris reported that students relied on the criteria more heavily as the instruction went on, and they were eventually able to defend their choice of words using the criteria. In this way students were able to experience first-hand the relationship between learning words and understanding a selection better.

2. Chris ensured that students learned the contextual meanings of words. This was especially important because so many of the words had multiple meanings, and simply looking them up in the dictionary did not provide students with the support they needed to understand the meanings of the words as they were used in the selections. Thus, students learned the meanings of new words as these were actually used in the selections. This prevented the isolated learning of words and demonstrated to students how all word learning is contextualized.

3. Students received practice using the words within the context of the reading selections. Through the generation of sentences using the words in context and discussions about the words as they related to the selections, students received multiple exposures to the words. They were also able to see how words relate directly to the plot, theme, and characters in the selections. These activities led to the deep processing of the words and repeated exposures to them—both of which have been shown to contribute to word learning and comprehension improvement.

Support for the experimental treatment comes not only from the student test scores but from the students themselves. Several students in the alternative group commented how learning the words

the way they did helped them understand their literature selections better. No student in the traditional group made that comment.

Conclusion

Using literature selections to teach students the meanings of words makes sense intuitively. Results from this study demonstrate that students can be taught a strategy for identifying important vocabulary and for learning those words within the context of a literature selection. This procedural and conditional knowledge about selecting important words and deciding how those words relate to a literature selection seems to aid the comprehension of that selection.

Chris began this study with a teaching dilemma and a question. With the help of Jan and Woody, he translated his question into a study where he found some important new ways to teach vocabulary to his secondary English students. We hope the results of this study will encourage other secondary teachers to try these techniques with their students.

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Quote from the 1950s

English spelling reform has about the same chance as a man going to the moon.

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Importance of handling the text for learning

A recent study of scholars' habits as they search for new ideas and information and integrate these into what they already know has revealed the importance of working physically with the text.

> Every scholar mentioned the need to annotate and underline articles. This is a method of highlighting important ideas for later re-reading. However, it also appears to be an executive control process which assists comprehension and the assimilation of concepts.
> The physical connection of the hand to the words, and control of the page by the hand, seem to assist the transmission of the intellectual content on that page to the mind.

Having the whole text in your hand is also a help:

> Flipping pages and scanning [are] a reading strategy, not simply a means for locating information. The purpose is to gain a sense of a whole context.

Flipping pages and scanning a text help provide a mental model of the whole, which helps the reader navigate through the text and aids comprehension.

This information emerged from an extensive survey of scholars in the physical sciences, social sciences, and humanities, examining the nature of the interaction between the scholar and the literature. It is suggestive, however, for learners of all ages and abilities and for their teachers.

For more information on the survey and on a related project that investigated how electronic journals and reference sources must be modified to satisfy scholars' needs (to date, paper journals remain more useful), see Jan Olson, "Electronic Journals: Implications for Scholars," in *Learned Publishing,* Vol. 7, No. 3, July 1994, pp. 167-176.

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