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Overlapping Vocabulary and Comprehension: Context Clues Complement Semantic Gradients

Scott C. Greenwood, Kevin Flanigan

We are both former upper elementary and middle-grades teachers who currently teach undergraduate and graduate education literacy methods classes, and we are always aiming at the application of best practice. To this end, we spend a lot of time “out in the field,” trying out strategies with teachers to ensure that they work well with children.

As part of their coursework, our graduate students delve into the complex connections between vocabulary growth and improved reading comprehension. They’re conversant with the research (e.g., Blachowicz & Fisher, 2006; Davis, 1944; Freebody & Anderson, 1983) that indicates that the size of an individual’s vocabulary is a powerful predictor of how well that person comprehends. They enter our classes eager to improve their own vocabulary instruction in order to bolster their students’ vocabulary learning. Many students readily admit, however, that their current methods for teaching vocabulary do not always engage their students, nor do they lead to long-term improvements in comprehension of text.

Despite the clear and longstanding connections between meaning vocabulary and reading comprehension, the fact is that programs designed to teach vocabulary have often had surprisingly little impact on overall reading performance (Blachowicz & Fisher, 2006). We believe one possible reason for this small impact is that teaching methods may not make the vocabulary-to-comprehension connection explicit for students. In other words, students may “learn” words as discrete meanings, but they don’t necessarily connect these meanings back to the larger context of the passage. We have developed a teaching technique that attempts to address this vocabulary-to-comprehension disconnect. In this article, we detail how we combined two strategies, context clues and semantic gradients, to “stack the deck” in students’

favor as they critically examined shades of meaning among related sets of words. First, we will discuss context clues. Next, we will explain how we have used semantic gradients. Finally, we will describe how we combined these two methods and provide examples.

Context Clues

Context clues are very important for broadly comprehending text as well as for specifically learning new words. Instruction in context problem solving pays great dividends. It’s akin to the old adage about catching fish for a man as opposed to teaching that man how to fish. Estimates (Nagy & Anderson, 1984) indicate that school-age children learn approximately 4,000 words in a school year, but that only 400 of these are learned through direct instruction. So if, on average, 90% of words are learned through repeated, meaningful encounters in direct experience, it only makes sense to optimize this avenue for learning. According to Adams (1990), however, only 5–10% of words are learned through a single exposure in a naturally occurring context. This brings us back to the notion of manipulating context in order to again stack the deck in the reader’s favor.

Because they are so transportable, context clues merit careful teaching. Students need to be sensitized to the various types of context clues that are available to them—they need to gradually become aware that authors choose their words carefully. Writers are at times subtle and economical in their word choices, leaking information on to the page carefully, purposefully—yet at other times gushing information in a torrent of words.

Students need to see and discuss various levels of context explicitness so they can eventually determine for themselves how supportive the context is. They need a lot of practice in how to use context as they

read large amounts of appropriately challenging text. Because the chances of learning a new word from context are slim (Adams, 1990; Stahl & Nagy, 2006), we teach our university students to “beef up” context (that is, manipulate it for teaching purposes). We start by introducing context clues that are “thin,” or not very supportive. For example, in the sentence, “The arbitrator and the plaintiff discussed the case at length” the context is not explicit enough to aid the reader in identifying the meaning of *arbitrator*. Next, we enrich the context, deliberately stacking the deck in the reader’s favor. We provide a sentence such as, “The arbitrator, the judge who had the final say, awarded \$50,000 to the plaintiff.” This enriched context leaves little doubt as to the word’s meaning. A second example of a contextually thin sentence could be, “Unlike Rebecca, Tammy was very morose.” This context could actually be misleading to the reader (e.g., if Rebecca was described as tall in the story, the student could infer that *morose* means short). This sentence with a richer context could be, “Unlike Rebecca, who was very enthusiastic, Tammy was very morose.”

Semantic Gradients

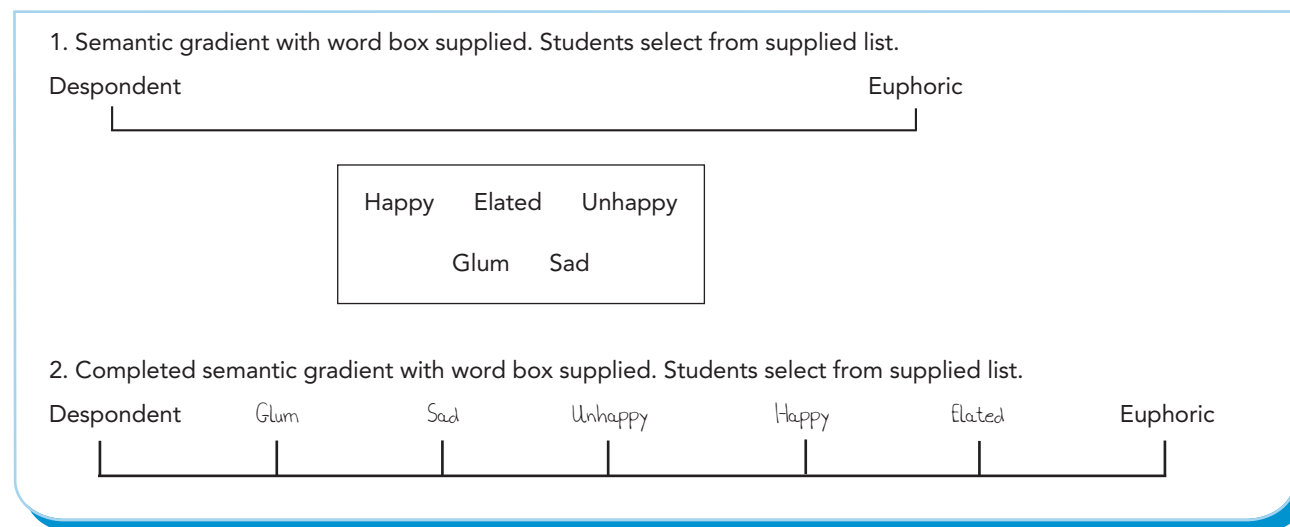
A semantic gradient (Blachowicz & Fisher, 2006) is simply an array of related words placed along a continuum (see Figure 1). These groupings help students to discern shades of meaning (e.g., *angry* and *furious*

should not be thought of as synonyms). For example, initially we might ask children to array the following familiar words: *big*, *little*, *huge*, *tiny*, and *average*. Through discussion and consensus, the continuum might be *huge*, *big*, *average*, *little*, and *tiny* listed from largest to smallest. Children can later build on this basic continuum by adding words with more specific meanings (e.g., by appropriately placing words such as *gargantuan*, *colossal*, *minute*, and *microscopic* along the gradient). Because it is helpful and reinforcing to teach words in interrelated groupings (Stahl & Nagy, 2006), these continuums are theoretically sound in addition to being motivating for students.

Some teachers might question what to do if children do not have adequate background knowledge of the word meanings. Teachers we have worked with have explained that students do not have to “know” every single word meaning richly and deeply to get started. Knowledge of a few “anchor words” can aid students in learning the other words along the continuum. It is the teacher’s job to decide whether the students have adequate background knowledge, or need to build knowledge, to begin.

We have developed two types of semantic gradients that we use with students. The first, and most supportive, is selection. In selection (see Figure 1), the students are provided with a partially completed gradient and a word box from which they choose words to place along that gradient. In section 1 of Figure 1,

Figure 1
Semantic Gradients



the words *despondent* and *euphoric* are already placed at the two extremes of the gradient. The students' job is to select words from the word box, place them in order along the gradient, and justify their thinking. Section 2 shows the completed gradient.

The second, and less supportive, type of semantic gradient is generation. In Figure 2, the students were given the extreme ends of the continuum—*scalding* and *freezing*—and generated the remaining words in between. The major difference between selection and generation is that in generation the students are not provided with a word box. This makes generation less supportive but at the same time allows the students more creativity, flexibility, and ownership.

These two gradients were developed for sixth graders. Simpler or more challenging lists that are age appropriate may be used depending on the needs of children. Semantic gradients require children to think about and explain shades of meaning. When students must persuade their classmates or group members, they deepen and broaden their understanding of these words. We have found that students willingly use dictionaries and thesauruses in order to solve these puzzles. Conversation has been rich and heated at times, as both our students and our students' students defend and justify their points of view.

We like to have students working individually at times, but most often we want them to be paired or in triads, negotiating and explaining their thinking and reasoning. In the early stages the teacher will think aloud regarding her thought processes, but he or she soon cedes responsibility and control to the students (Pearson & Gallagher, 1983).

Overlapping Context Clues and Semantic Gradients

As we mentioned in the introduction, we have found that semantic gradients alone are not always sufficient in supporting students as they attempt to connect individual word meanings back to the larger context of a passage. To address this vocabulary to comprehension disconnect, we combined context clues and semantic gradients.

First, we provided students with a few sentences in a cloze-type situation with a deliberately manipulated context. We typically provide increasingly more contextual support in the sentences. For example, we provide the following sentence for the students: "The teacher was _____." After some discussion, and after the students realize that a huge range of words are possible to complete this sentence, we introduce the gradient found in Figure 3.

Figure 2
Semantic Gradient With Two Words Supplied, Others Generated (No Word Box Supplied)

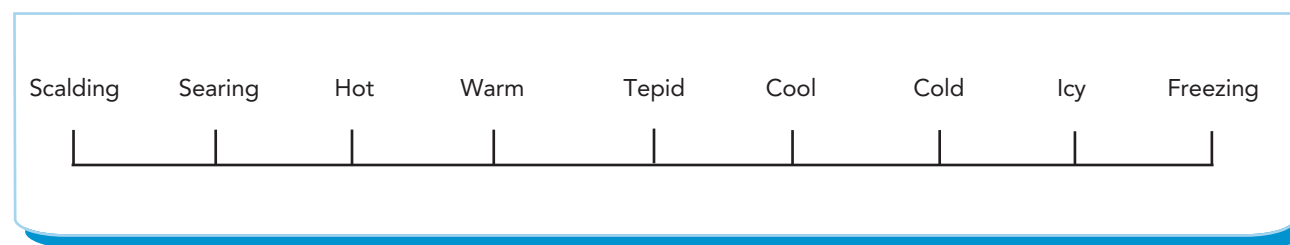
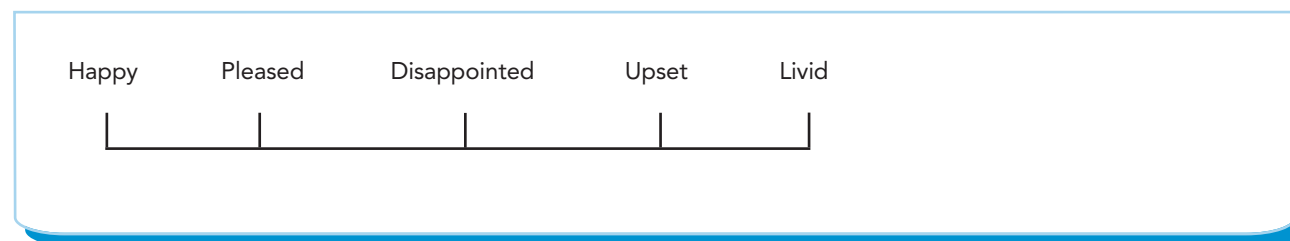


Figure 3
Semantic Gradient for Use With Context Clues



Examples of Manipulated Contexts That Match Gradients

Sets I, II, and III complement one another and represent a sequence of instruction. For example, in Set I, sentence (a) is intended to be open ended. The same sentence (a) is enriched in Set II by adding information ("He couldn't wait to see his new puppy"). Finally, in Set III gradient (a) matches the previous two contexts.

Set I: Basic contexts

- Jimmy (many appropriate possibilities) all the way home. (a)
 Jimmy's team _____ their opponents. (b)
 Jimmy's mom _____ during the movie. (c)
 Jimmy felt _____ when he got his test back. (d)
 Jimmy was dressed properly for the _____ weather. (e)

Set II: Richer contexts

- Jimmy (based on this context, the verb should indicate that Jimmy is moving quickly) all the way home. He couldn't wait to see his new puppy. (a)
 Jimmy's team _____ their opponents 45 to 3. (b)
 Jimmy's mom _____ during the movie. It was the saddest film she had ever seen. (c)
 Jimmy felt _____ when he got his test back. (d)
 He had studied hard and it paid off!
 Jimmy was dressed properly for the _____ weather. His wool hat, mittens, and insulated boots were just perfect. (e)

Set III: Matching gradients to go with Sets I and II

- Dawdled Ambled Strolled Strutted Jogged Raced Sprinted (a)

- Squeezed by Beat Defeated Crunched Clobbered Decimated (b)

- Bawled Sobbed Sniffled Giggled Chuckled Laughed Roared (c)

- Despondent Upset Sad Happy Ecstatic Elated Jubilant (d)

- Frigid Cold Cool Warm Balmy Hot Sweltering Scorching (e)

Figure 4
Student-Developed Gradient

Raced Sprinted Ran Strutted Walked Dawdled Crawled Hobbled

- Jamaal _____ down the street.
- Jamaal frantically _____ down the street.
- Jamaal _____ down the street. He was extremely proud of the award that he had received.

Next, we enrich the sentence to read, “The teacher was _____ because the class behaved so well.” With this slightly richer context, the students narrow the options to *happy* or *pleased*.

Next, we provide a different context. “The teacher was _____ because the class was so unruly. She felt betrayed after she worked so hard to help them.” During discussion, the students come to see that this different context narrows the choices to *disappointed*, *upset*, or *livid*.

The final sentence is “The teacher was _____ because the class was so unruly. The students had never seen her so out of control.” In this context, the students discuss how *livid* might be the most appropriate match for the phrase “out of control.” Throughout this entire sequence, students talk about their choices, noting the difference in meaning and nuance. They are reminded that authors choose their words carefully in order to convey meaning. After several varieties of teacher-developed gradients, the students then take over in creating contexts and gradients themselves.

In Figure 4, seventh graders developed their own gradient, which they coupled with three minicontexts. They proudly presented these creations to their peers for discussion and solution.

These students were dealing with a gradient that they arrayed according to speed, but they noted other shades of meaning. They pointed out that both *hobbled* and *dawdled* indicated slow movement, but that one implied avoidance with purposeful movement while the other was probably due to handicap or injury. They also noted that you must often search beyond the sentence with the targeted word in order to fully ascertain meaning. Of course, when students themselves are able to create the gradients and the minicontexts, we’re confident they have further inter-

nalized the notion of how context can clarify word meaning. Our students’ students have progressed to the point where they are, in many cases, doing the majority of the work as they develop new gradients. They’re discovering different shades of meaning (*balmy* may be used to describe the weather but not a hamburger) and delight in sharing their creations. In one of our teachers’ classrooms, some fifth graders physically demonstrated the words *hobbled*, *strutted*, and *dawdled* in order to make Figure 4 more explicit.

Context is so important to reading proficiency, and the strategies we have described truly require students to look carefully at the subtle aspects of words that help to determine the construction of meaning. We believe the real benefit of overlapping these two strategies is enabling students to reconnect individual word meanings to the text, helping them bridge the divide between vocabulary and comprehension. Remember that you’re not the only teacher in your classroom. Your own students can run with a variety of strategies if given the time, opportunity, and initial instruction.

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