

Vocabulary Instruction: Possible Sentences for Science

Est. Time: 1 Hour

Objective

Learn about and discuss a strategy for improving vocabulary instruction for students in science class.

Overview

Vocabulary instruction is an integral part of helping secondary students to learn content successfully. The use of vocabulary instructional activities, such as Possible Sentences, prior to reading text is intended to help students activate their background knowledge, think about words as related concepts, and actively process information. A study in which Possible Sentences was implemented with academic text found that students who engaged in the structured form of pre-teaching vocabulary showed improved recall of vocabulary as well as improved recall of facts from the text. Possible Sentences requires that students read texts of sufficient length and content to warrant teaching 6–8 new vocabulary words and reviewing another 4–6 familiar words. Following are the steps to implement Possible Sentences with fidelity.

Because Possible Sentences requires that students read texts of sufficient length, it works well for science; however, it is not appropriate for some content areas, such as mathematics, or with certain lessons or content such as poetry.

1. **Teacher:** Select unfamiliar and familiar words.
 - Teacher selects 6–8 important, unfamiliar words and generates simplified definitions for each word.
 - Teacher selects 4–6 related, known words.
2. **Teacher and students:** Practice word identification.
 - Teacher presents the unfamiliar and familiar words as one list.
 - Teacher pronounces each term.
 - Students pronounce each term in unison.
3. **Teacher and students:** Generate student-friendly definitions.
 - Students define terms.
 - Teacher provides student-friendly definitions for the remaining words.
4. **Students:** Compose possible sentences.
 - Students write 2–4 sentences containing at least two vocabulary words each that they feel comfortable using.
 - Students share Possible Sentences with the class.

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5. **Students:** Read text.

- Students read the target passage independently, aloud with partners or in small groups, or aloud as a class.

6. **Students:** Evaluate, discuss, and revise sentences.

- Students check to make sure that their sentences are consistent with the information and message conveyed in the text.
- Students revise possible sentences after reading the text as needed. *Note: The teacher may need to model making modifications or additions to the possible sentences.*

Students with limited vocabulary knowledge not only know fewer words than their peers with typical vocabulary development but also often know less about the meanings of individual words. This makes it important to consider the multiple meanings of target words and words that sound similar to discipline-specific vocabulary when planning instruction. New words with similar forms and pronunciations should not be taught simultaneously. However, teachers can avoid confusion by pointing out what distinguishes a new vocabulary word from any similar-sounding words students already know or what distinguishes a content-specific definition from the meaning students might already be using for a word with the same spelling.

Because the range in students' reading abilities tends to widen as students enter the middle grades, there is an increased need for teachers to differentiate instruction and create appropriately challenging learning opportunities for all students. Teachers can differentiate Possible Sentences in the following ways:

- Before reading: Provide sentence stems to students who are struggling or additional "challenge words" for students who are more advanced.
- After reading: Focus students' attention on particular sentences needing revision or require revisions to include different forms of the target word(s).

Keep In Mind

- Any new instructional strategy must be thoroughly explained and modeled to students.
- Teachers should spend time preparing all parts of the activity (e.g., defining the words, writing sentences using all the words) before implementing a lesson in the classroom.
- Learning vocabulary is an iterative process requiring multiple opportunities for students to experience and practice applying a new word before they will do so expertly.
- Because students benefit from hearing what their peers know about vocabulary words and how their peers can apply their words, including opportunities for peer-to-peer interaction or class discussions can promote learning.
- At some point after the Possible Sentences activity, the teacher should evaluate the students' knowledge of the new vocabulary terms.

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Scenario

Ms. Thomas is prepared to introduce her students to a chapter on the water cycle. She has previewed the text and chosen six unfamiliar words (left column) that are critically important to understanding the lesson. She has also chosen four related words (right column) that the students already know. All 10 words are displayed on the board.

evaporation	collection
condensation	steam
precipitation	ocean
vapor	clouds
transpiration	
perspire	

Ms. Thomas reads each word to the class and asks the students to repeat each of them. To activate her students' prior knowledge, she asks whether they know what any of the words mean.

Sam is a student in Ms. Thomas' class. As Ms. Thomas accepts students' responses to her prompt, "Raise your hand if you know what any of these words mean," she notices that Sam is struggling, offering only vague definitions. For example, he says that "Steam comes off water," and that *collection* means "to get stuff." Sam is on the right track, but Ms. Thomas wonders what she can do to help him deepen his understanding of the words' meanings.

Ms. Thomas also notices that a few students need instruction on words that sound similar to the target words. For example, a few students confused *transpiration* with the more familiar word *transportation*, and *perspire* with *prosper*. Ms. Thomas knows that students will encounter these words repeatedly in the text, and she is concerned that they might not understand the concepts if they are thinking of a different term.

After providing a simplified definition for each of the words and generating possible sentences, Ms. Thomas asks the students to read the chapter section with a partner. The class is now working in pairs to review and revise their possible sentences.

Ms. Thomas is circulating the classroom and providing help to the pairs as needed. She notices that Juan and Daniel have finished revising their sentences and are simply talking with each other now. She looks over their work and sees that they have successfully revised the possible sentences and seem to have a strong grasp of the words they are studying. She wonders how she can provide enrichment for Juan and Daniel while the rest of the class continues with the regular lesson.

Questions

1. How would you encourage Sam to deepen his understanding of the words' meanings?
2. How would you provide instruction to students who might confuse target vocabulary with similar-sounding words that are not related to the concepts in the unit?
3. How would you provide enrichment for Juan and Daniel?

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Resources

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