VORONEZH STATE UNIVERSITY

Academic Language

Understanding the Role of Academic Language within Literacy Development and its Implications

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Agenda

- What is academic language?
- How can we help students to build the academic language that they need to succeed in school/university?
- How can our education programs support candidates in embedding/inserting academic language into university practice?

A Scenario

Martin: Like, to divide em, you turn the second one over and times it by the first one. But ya gotta see if any numbers fit into the top and bottom to cross em out and get em smaller so you don't get big numbers at the end. At the end you see if you can make the top and bottom as small as possible.

Leslie: In order to divide two fractions, take the reciprocal of the second one and multiply by the first. Before multiplying though, see if any numerators and denominators have common factors that cancel out. For example, if a nine is above and three below, divide by three and you end up with three on top and one below. Multiply the numerators across the top and the denominators across the bottom. See if the answer can be further reduced.


AND THROUGH THE POWER OF COMPUTING ONE DAY WE'LL...
LOSER!

Informal Language	Academic Language
repetition of words	variety of words, more sophisticated
sentences start with “and” or but”	sentences start with transition words, such as “however”, “moreover”, and “in addition”
use of slang such as “whatever” and “like”	replaces slang with accurate descriptions
appropriate for use in casual, social settings	appropriate for use in all academic and work places settings
can vary greatly by ethnicity, region, gender, age	common language register for all (K. Kinsella, 2007)

Academic Language

- Language used in classrooms, found in textbooks, and presented on tests that students must master in order to succeed in any content area.
- Students need to be equipped to learn new knowledge through reading and listening and to clearly express their knowledge and ideas through discussions and writing.
- Believed to be one of the most important factors in the academic success of English Language Learners (ELLs).
  - Moving students, particularly ELLs, from the less complex Basic Interpersonal Communicative Skills (BICS) to a more complex and abstract Cognitive Academic Language Proficiency (CALP) requires specialized teaching and support.

Common Core State Standards and Academic Language

The Common Core State Standards require the teaching of Academic Language as well as subject specific content and address a student's ability to:

- reason abstractly
- construct viable arguments
- critique the reasoning of others
- construct explanations
- design solutions
- engage in argument from evidence
- ask questions
- define problems

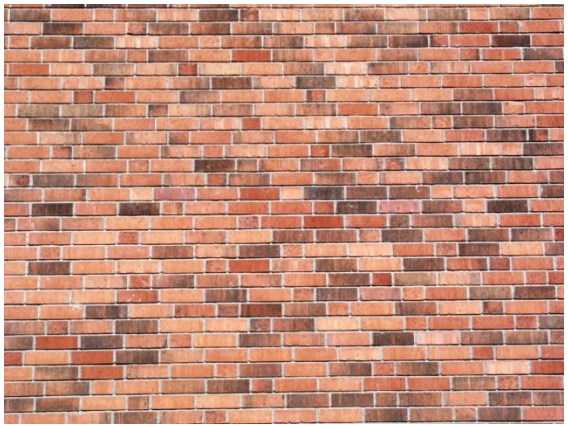
Academic Language is the type of abstract, demanding language that students need in order to be college and career ready and professionally mobile.

Language Demands

- **Specific ways that academic language is used as students participate in learning tasks.**
- The language demands include:
  - **Language Functions**
  - **Vocabulary**
  - **Syntax**
  - **Discourse**

An Analogy

Vocabulary
(individual words)



Syntax
(sentence)

Discourse
(oral/written text patterns)

Vocab, syntax and discourse are the tools used to accomplish the language function.

Language Function

1. the **purpose or reason** for using language in a learning task

2. represented by **action verb** within the learning outcome

**Identify one major language function associated with deep content learning (central focus).*

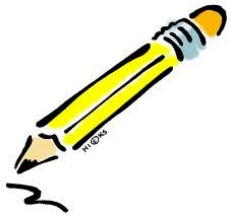
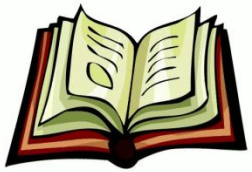
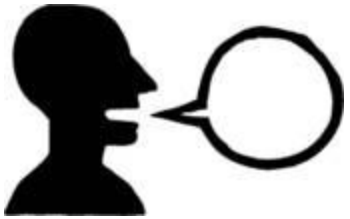
	Sample Language Functions
Elem Literacy	Interpret, Predict, Categorize, Compare/contrast, Retell, Summarize, Explain
SS	Analyze, compare/contrast, construct, describe, etc
MATH	Compare/contrast Conjecture, Describe, Explain, Prove
ENG	Analyze, Argue, Describe, Explain, Evaluate, Interpret, etc
ART	Analyze, Compare/Contrast, Critique, Question, etc
SCI	Analyze, Explain, Interpret, Justify with evidence
Sped	Communication skills

Language function must be practiced by students!

- How often do you summarize information? predict outcomes? classify information? (every day, month…)
- It is not enough to define the language function. students need to practice the language function as much as possible.

Receptive vs. Productive Language Skills

- English learners tend to develop receptive skills (listening and reading) faster than productive skills (speaking and writing)

- **The students should practice <u>both</u> receptive and productive language skills in lessons!**
- **We should be primarily concerned with assessing students' productive language skills every time.**

What is more effective in teaching Acad. Lang?

- Planning
  - Prepare lessons with language learning target in mind
- Lesson Delivery:
  - Build/scaffold students' schema/ background
  - Use realia and "hands on" materials
  - Engage students in 90-100% of the lesson
  - Vary techniques to make content concept and vocabulary clear
  - Model and provide ample opportunities for students to use strategies
  - Provide frequent opportunities for interaction
- Review/Assessment
  - Provide comprehensive review of key concepts and vocabulary
  - Conduct informal, quick assessments of comprehension and learning

Sample Language Functions and Associated Language Demands

Function	Demand
Define	Write definitions to vocabulary words
Assess	Write a 1 paragraph self-reflection
Compare	Draw a Venn diagram and fill sections with terms
Debate	Participate in a class debate
Construct	Draw a comic strip with characters explaining the concept
Apply	Solve word problems involving one variable
Describe	Speak aloud for 30 seconds describing the characteristics of a sculpture

Vocabulary

Definition:

Words and phrases that are used within disciplines including:

- words and phrases of everyday speech usually learned in early grades; rarely requires direct instruction (e.g., book, run, animal)
- general academic vocabulary used across disciplines (e.g., compare, analyze, evaluate)
- subject-specific words defined for use in the discipline

Quinn, H., Lee, O., & Valdés, G. (2012). Language demands and opportunities in relation to next generation science standards for ELLs. Retrieved from http://ell.stanford.edu/publication/3-language-demands-and-opportunities-relation-next-generation-science-standards-ells

Specialized Academic Vocabulary/General Academic Vocabulary

(Bricks) **(Mortar)**

Utility words to hold bricks together

Content Specific/Technological Words
democracy, mammal, numerator

Words across a variety of domains –
evidence, consequently, dependent, nevertheless

(Dutro & Moran, 2003)

Can you find the brick and mortar words?

One season, there was a shortage of producers in a food web. As a result, the number of deer and wolves decreased. The reason that both the deer and wolf populations declined is that:

A. producers are not as important as consumers in a food web

B. more consumers than producers are needed to support the food web

C. organisms in this food web are interdependent

D. populations tend to stay constant in a food web

(New York State Regents High School Exam: Living Environment Item 3, August 13, 2008)

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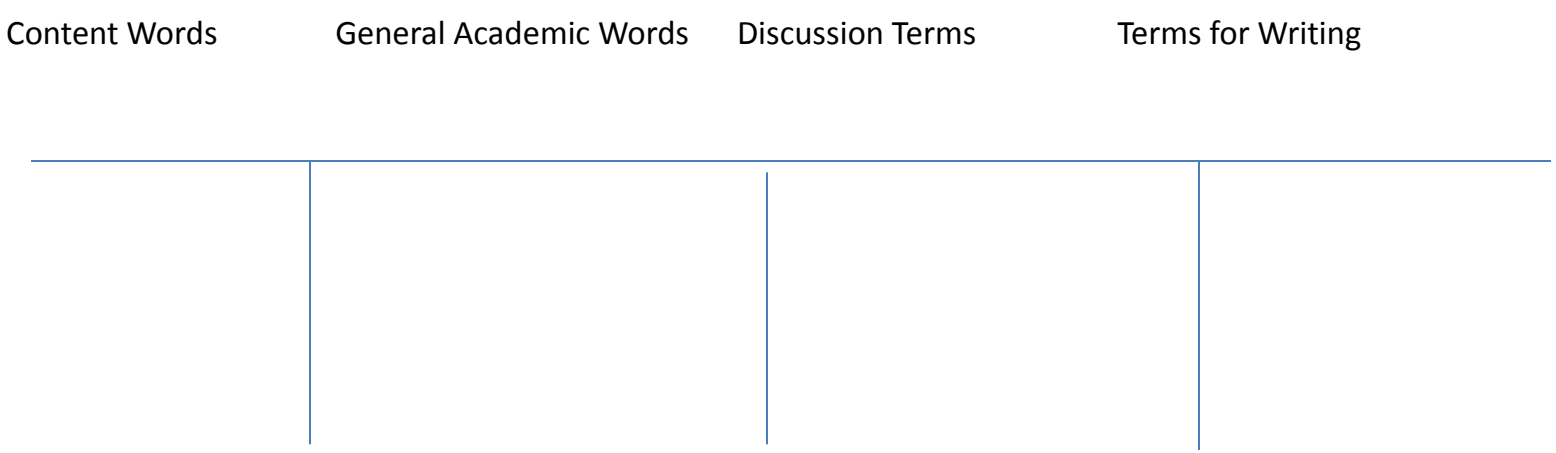
What happens when only bricks are used for a building?

Implication: use both content and general vocabulary

Word Walls

- Visual Tool for Building Academic Vocabulary

1. Content words (bricks) – reciprocal, parabola
2. General Academic words (mortar) – define, explain
3. Classroom discussion terms – I believe that … I don't understand why …, I found that …
4. Terms for writing – In conclusion, The next step is … (Zwiers, 2008)



Characteristics of Effective Vocabulary Instruction: Marzano's Six Steps (2009)

1. The student searches for a description, explanation, or example of the new term.
2. Students restate the explanation of the new term in their own words.
3. Students create a non linguistic representation of the term. Students can draw or use a picture, show a video, use a graphic organizer, make a web map, demonstrate with a real thing.
4. Students periodically do activities that help them add to their knowledge of vocabulary terms.
5. Periodically students are asked to discuss the terms with one another.
6. Periodically students are involved in games that allow them to play with the terms.

These strategies are particularly important to use with our English Language Learners but all students need opportunities to practice using new vocabulary!

Teaching Channel College Talk: Improving Students' Vocabulary

Scaffold Instruction

1. Total Physical Response to Language
2. Choral Repetition
3. Model Use of Language
4. Picture Walk
5. Word Bank
6. Self-editing of writing
7. Study Adjective and adverbial Forms – hardly, scarcely, rarely, next, last, least,
8. Work on words to express Logical Relationships – if, because, therefore, however, unless, almost , always, never
9. Study the academic language in the context of content instruction
10. Study the use of prepositions – above, over, from, to, until, beside, near

Syntax

- **Set of conventions for organizing symbols, words, and phrases together into structures**
- Syntax helps to make the content recognizable to others.

In reference to sentences, syntax is how a sentence is worded and structured in ways that can create, extend, or effect meaning.

Syntax

- Syntax is basically the structure of sentences and sentences must follow certain structural rules to make sense.
  - *Order words make sense need to*

  (This doesn't make sense!)
  - *Words need order to make sense. (Now I understand.)*

Syntax

- When we look at how a sentence is worded or the syntax of a sentence, we can look at types of sentences (declarative, interrogative, exclamatory, imperative).
- Sentence Stems are often tools that are used to help give students the words and the structures needed as they organize their writing.

Sentence Stems

Make predictions	I think _____ will _____ .
Hypothesize	If _____, then I think _____.
Measure	A _____ is _____ cm long, _____ cm wide, and _____cm tall. This _____holds a volume of ____mL. Before we _____, the liquid _____, but now it _____.
Retell/ Sequence	First, _____, next, _____, and then _____.
Give and support opinions	I think _____ is _____ because _____.
Disagree	I don't think the evidence supports _____ because_____. I don't agree with that statement because_____.

Comparing and Contrasting

Language Frames:

- 1. One similarity/difference between _____ and ____ is _____.
- 2. ____ and _____ are similar because they both _____.
- 3. Whereas _____ is … _____ is …
- 4. _____ is … Similarly/In contrast, _____ is …

Language of Agreeing:

- 1. My idea/explanation is similar to/related to …
- 2. I agree with (a person) that …
- 3. My idea builds upon (a person's) idea …
- 4. I don't agree with you because …

(K. Kinsella, 2017)

Sentence Stems for Partner/Group Share

- "The text is about …"
- "The main idea is …"
- "The most important details are …"
- "I learned …"
- "My partner pointed out …"
- "We agreed that …"
- "We decided that …"

The students should use specific "sentence stems" to support the use of academic language and to scaffold structured dialogue.

Feldman, K., & Kinsella K. (2015)

Discourse

- **How people who are members of a discipline talk and write**
- How do we create and share knowledge?
- What is the structure of our written and oral language?

*Discourse - any time students speak or write. Discipline specific discourse has ways of structuring oral or written language (text structure) to communicate content.

Text Types - the way that text is structured to communicate content

Expository – intent is to explain something, make an idea clear, define a term, give a direction – INFORM

Persuasive – always targeted toward action, represents power as when you persuade someone to lend you ten dollars.

Descriptive – make the reader aware as vividly as possible as to what the writer has perceived – piece of music, the odor of the basement

Narrative – concerned with action, with events in time and answers the question as to what happened and how it happened

Example of Discourse

Scientists and essayists would organize text and present supporting information to justify a position with different structures of discourse patterns. In Science, you frequently add notes to a diagram or a graph.

In English, you go deeper into specific meaning, make connections, and identify and explore key literary elements.

Persuasive Essay

Thesis, argument, counter argument, rebuttal, conclusion

If the language function is to persuade, then the appropriate language structure includes claims, supporting evidence, and counterarguments

Reading Comprehension Strategies

- Predict
- Question
- Clarify
- Summarize

Annotation

- The writer of this piece:
  - provides a title to establish the topic
  - supplies facts and information about the topic
  - provides a conclusion
- This piece illustrates the writer's awareness of beginning-of-sentence capitalization and end-of-sentence punctuation as well as the use of capital letters in proper nouns.

<u>Learning Suggestions:</u>

  - Use of linking words
  - Organization: successful grouping of like facts (Spain looks like a upside down hat and Spain has a lot of different people.)

Special Education

1. Identify communication skills (function)

a) receptive skills – listening, reading (text, pictures, signs)
b) expressive skills – speaking, writing, demonstrating
c) representational skills – symbols, notations, gestures, facial expressions

The communication skill (function) is basically the purpose for communicating in a learning task in order to deepen understanding of the learning target.

2. Additional communication demands include:

a) Vocabulary
b) syntax – sequenced pictures
c) social skills – waiting your turn
d) situational expectations – how to speak with an employer as compared with a friend.

Goal is still one of effective communication of academic learning!

Candidate sample
Task 1: Identifying the communication skill

The focus learner's communication skill is to solve a multiplication problem of 4 within 20...This means that when the focus learner encounters a multiplication problem with 4 as one of its factors, he will be able to find the product. He will communicate the solution of multiplication problems of 4 within 20 using content specific language such as factor, product, group, zero property, and array.

- The expressive and receptive vocabulary demands…consist of factor, product, multiply, times, array, row, column, group, zero property, identity property, skip counting, nickel, coin, cent, dollar, addition, repeated addition, addition tree, and sum.
- The focus learner will also need to receptively and expressively understand the syntax of a multiplication fact. He will need to know that a multiplication fact is structured to consist of a factor, the multiplication symbol, another factor and the product. He will need to k…st fact…. He will …e use…

Task 1: Identifying the associated language demands

- The focus learner will also need to be able to demonstrate a social use of communication receptively by being able to communicate an understanding of the content as well as expressively by being able to seek assistance from adults and peers. The focus learner will display the situational expectations of communication receptively and expressively as well by following written and oral directions.

In the work sample, the focus expressively communicates his ability to solve multiplication problems of 4 within 20 and demonstrates learning by using content specific language when solving multiplication problems of 4 within 20. This can be seen in clip one from task two at 0:37 when he solves 5 x 0 using the zero property and is able to define it. The vocabulary demands of the focus learner were used to receptively access the learning task to solve multiplication problems of 4 within 20. This can be seen in clip one from task two at 0:12 when the focus learner is referred to the math vocabulary word wall.

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Task 3: Assess focus learner's ability to demonstrate communication skills

at 1:44 when the focus learner assists a peer in solving a multiplication problem of 4 within 20.

The focus learner is also able to expressively demonstrate learning through the situational expectation demands. This can be seen in the additional video clip named "communication use" at 3:22. The focus learner is able to expressively solve the multiplication problem by following the oral directions and using the manipulatives.

Note: Academic Language should be seamlessly embedded within the content

Example: science unit on simple machines

Day 1: what are simple machines?

Day 2: experiment on inclined planes

Day 3: write up conclusion on experiment; students taught how to write a conclusion using evidence from experiment

Day 4: reading on simple machines; students taught structure of expository text

Rubric 14: Analyzing Students' Language Use and English-Language Arts Learning

How does the candidate analyze students' use of language to develop content understanding?

Level 1	Level 2	Level 3	Level 4	Level 5
Candidate identifies **language use that is superficially related or unrelated to the language demands (function,[6] vocabulary, and additional demands).** OR Candidate **does not address students' repeated misuse of vocabulary.**	Candidate **provides evidence that students use vocabulary associated with the language function.**	Candidate explains and provides evidence of students' use of the language function as well as **vocabulary or additional language demand(s).**[7]	Candidate explains and provides evidence of students' use of the language function, vocabulary, **and** additional language demand(s) **in ways that develop content understandings.**	**Level 4 plus:** **Candidate explains and provides evidence of language use and content learning for students with varied needs.**

Academic language:
Level 2: only addressed vocabulary
Level 3: evidence that students demonstrated appropriate use of syntax or discourse
Syntax: (ex)students can appropriately analyze data, construct sentences
Discourse: (ex) students can appropriately construct an essay or argument
Assessment must be consistent with language function identified in Task 1: analyze, explain, justify with evidence

Backwards Mapping = starting the planning cycle with the instructional goal/objective in mind.

Traditional Practice	Standards-based Practice
Select a topic from the curriculum	Select standards from among those students need to know
↓	↓
Design instructional activities	Design an assessment through which students will have an opportunity to demonstrate those things
↓	↓
Design and give an assessment	Decide what learning opportunities students will need to learn those things
↓	↓
Give grade or feedback	Plan instruction to assure that each student has adequate opportunities to learn
↓	↓
Move onto new topic	Use data from assessment to give feedback, re-teach or move to next level

Subject-specific assessment criteria

	CONTENT	PROCESS	Language Function
SS	Facts and concepts	Interpretation and analysis skills; Building and supporting argments	Analyze, compare/contrast, construct, describe, etc
MATH	Conceptual understanding (Knows when to use a certain algorithm: factoring vs. quadratic formula)	Procedural fluency (Solve, calculate, convert, add, multiply) Mathematical reasoning, problem solving skills	Compare/contrast Conjecture, Describe, Explain, Prove
ENG	Comprehend, construct meaning from, interpret complex text	Create a written product interpreting or responding to complex features of text	Analyze, Argue, Describe, Explain, Evaluate, Interpret, etc
ART	Form and structure, Art context, Personal perspective	Production	Analyze, Compare/contrast, Critique, Question, etc
SCI	Science concepts	Science practices (carry out inquiry-based investigation, build model)	Analyze, Explain, Interpret, Justify with evidence

Designing an assessment

- Step 1: Select a set objective(s) from your lesson
- Step 2: Create an assessment aligned to the objectives that will identify what students know and can do and what their misconceptions are.
  - Be sure to assess for content, process/skill and academic language
- Step 3: Create a rubric through which you can score the assessment
- Step 4 : Analyze assessments. Plan next steps in instruction.

Writing assessment questions

- Things to consider:
  - Draw from all levels of Bloom's taxonomy
  - Be VERY clear on question wording
  - Problem-based questions are great to include on tests! (ex. something goes wrong, how would you fix it?)

Sample: DENSITY PREASSESSMENT SCORING RUBRIC				
	Below Standard (1)	***Approaching Standard (2)***	***Meets Standard (3)***	***Exceeds Standard (4)***
Density (Content)	*Student does not know what density is.*	*Student knows that mass or volume is involved in calculating density.*	*Student knows that mass and volume are involved in calculating density.*	*Student can explain the effect of increasing mass and volume on density.*
Describe the "rule" (Scientific practice)	*Student does not state any "rule" utilized to compare the two people.*	*Student states a "rule" utilized when comparing the two people, but does not explain reasoning/thought process*	*Student states a "rule" utilized when comparing the two people's densities and explains reasoning/thought process*	*Student states a "rule" utilized when comparing the two people, explains reasoning/thought process, and makes connections to density of water.*
Academic Language	*(Syntax) Student does not accurately read and cite information from table to construct rule. (Vocab)Student accurately uses term* ***density*** *in explanation.*		*(Syntax) Student accurately reads and cites information from table to construct rule. (Vocab)Student accurately uses term* ***density*** *in explanation.*	

Criteria	1. Below standard	2.Approaching standard	3. Meets standard	4. Exceeds standard
SWBAT: Students will be able identify and label a picture of the skeletal system.	Student did not attempt to write a response.	Student identified and labeled the picture as bones.	Student identified and labeled the picture as a skeleton.	Student was able to identify and label the picture as the skeletal system with correct spelling.
SWBAT: Students will provide a written hypothesizing how the amount of milk drank can affect bones bases on a scenario.	Student did not attempt to answer the question or answered the question and summarized the Scenario.	Student was able to write a legible response and answered the question with 3-4 spelling and grammar errors. Student answered the question but did not provide a reason why.	Student was able to write a legible response and answered the question with 2-3 spelling and grammar errors. Student provided a reason why but did not support their reason with evidence from the scenario.	Student was able form a well written legible response with correct grammar and spelling explaining how the amount of milk drank affected the injury and was able to hypothesize that the more glasses of milk one drinks the stronger their bones are, along with additional information.
SWBAT: Students will write a response explaining why bones are important.	Student did not attempt to write a response or student did not provide an accurate response and it was not in a complete sentence, 3+ spelling and	Student was able to answer the question but did not write it in a complete sentence while providing an accurate answer with 1-2 spelling and grammar errors.	Student was able to answer in a complete sentence with 1-2 spelling and grammar error while stating an accurate reason why bones are important.	Student was able to answer in several complete sentences with no spelling or grammatical error and provide more than one accurate reason why bones are important.

Additional language demands:

- **Syntax:** Annotate text using annotation symbols to extract information from a dense text.
- **Discourse:** Scaffolding the analysis of what we've read via use of FourSquare and using that as springboard to develop student ideas.
- **Instructional support prior to and during the learning task,** is the use of FourSquares, which organize the information students will be analyzing. As students work to complete the four corners of their FourSquares, they will be able to conceptualize the text and their claims as parts of a whole, making it easier to analyze the information they have organized.

To Summarize

Language Demand	Structural Level	Language Supports
Language function	Verb in language learning target	Should be assessed in addition to content learning targets
Vocabulary	Word	Word walls Four squares Marzano's six steps
Syntax	Sentence	Sentence starters OPTIC for tables, graphs
Discourse	Paragraph/text	Paragraph starters Teaching text types Reading comprehension strategy instruction Marginalia Foldables Annotation

Zwiers, 2008

" … if we just teach our content, we drastically shortchange our students. They may end up with a few more facts and skills but miss out on the cultivation of rich dialog and thinking that will serve them their entire lives. Academic language is not just for academic purposes. Whatever students do in the future, they will need to use their academic language tools for a variety of purposes, such as reading contracts, debating issues, arguing for rights, identifying deception and persuasion, solving complex problems, interpreting religious texts, and communicating their ideas in written and oral formats."

References

- Academic Language Development Network http://aldnetwork.org/
- Dutro, S., & Moran, C. (2003). Rethinking English language instruction: An architectural approach. In G. G. García (Ed.), *English learners: Reaching the highest level of English literacy (pp. 227-258). Newark, DE: International Reading Association.*
- Marzano, R.J., (2009). The art and science of teaching/ six steps to better vocabulary instruction. *Educational Leadership, 67*(1), 83-84.
- Quinn, H., Lee, O., & Valdés, G. (2012). Language demands and opportunities in relation to next generation science standards for ELLs. Retrieved from http://ell.stanford.edu/publication/3-language-demands-and-opportunities-relation-next-generation-science-standards-ells
- Zwiers, J. (2008). *Building academic language: Essential practices for content classrooms*. San Francisco, CA: Jossey-Bass.
- Zwiers, J. & Crawford, M. (2011). *Academic conversations: Classroom talk that fosters critical thinking and content understanding*. Portland, Maine: Stenhouse Publishers.