Cognitive Load

Reduce language load when focusing on content and skills
Reduce level of difficulty of content when focusing on language

Instruction for ELL

- Use knowledge of stages of language development to plan instruction and choose materials
  - Reduce language load when focusing on content and skills
  - Reduce level of difficulty of content when focusing on language

The hedge parted and first Mr. and then Mrs. Golding and then a redhead girl walked into the Dunn’s yard.

---

Without, the night was cold and wet, but in the small parlor of Laburnum Villa the blinds were drawn and the fire burned brightly.

---

Language Sample: Ti-Sang, 12-year-old from Cambodia

“Hmm...they-they, like, speak Cambodian more because they more comfortable in it. They don’t want to talk English sometime because when they go to school they don’t, like, really talking, right? But when at home they chatter-talk. ‘Cause they kind of shy, you know, like, when the teacher call on them and they don’t know the answer, sometime they know the answer but they shy to answer. If you ask them, ask them so quietly, they answer.”

Wong & Snow (2000)
Academic Language

• Teach academic language in the context of content instruction.
• Work on the kinds of construction that figure in logical reasoning (such as, conditional sentences or conditional comparative constructions).
• Teach words that express logical relationships (if, because, therefore, however, unless, same, alike, different from, opposite of, whether, since, unless, almost, probably, exactly, not quite, always, never, etc.) -Critical to understanding academic text because they link ideas.

Academic Language

• Teach the meanings and uses of terms that express relationships in time, space, quantity, direction, order, size, age, etc.
• Study the use of prepositions such as: above, over, from, to, near, until, toward, beside, etc.
• Adjectives/adverbial forms such as hardly, scarcely, rarely, next, last, older, younger, most, many, less, longer, least, higher and so on.

Student’s Response to Discrimination

“I am absolutely oppose. My boss discriminations me all the time at Macy’s. She salaries me lower than other people and prejudices at me sometimes.”

Kinsella, 2005
Production v. Recognition

**Productive Language Skills**
- Require more mastery and a deeper understanding of the material.
- Promote higher order thinking skills
- Enable students to engage in meaningful discussions and writing about the topic
- Help students learn and internalize academic vocabulary.

**Recognition Language Skills**
- Lead to superficial knowledge
- Are sufficient for a multiple-choice test
- Result in one- or two-word responses and
- Are inadequate to develop academic vocabulary

ELLs and ACTIVE Learning

“There is now a massive amount of evidence from all realms of science that unless individuals take a very active role in what it is that they're studying, unless they learn to ask questions, to do things hands-on, to essentially recreate things in their own mind and transform them as is needed, the ideas just disappear.”

Howard Gardner, Professor in Cognition and Education
Harvard Graduate School of Education

ELLs and ACTIVE Learning

- What percentage of students actively participate in typical classroom discussions?

80/20 dilemma

- Decades of research clearly demonstrates approximately 80% of the doing (ask/answer, discuss, explain, write, read, etc.) is done by 20% of the students

Kevin Feldman, 2010
Idea Completion

• Coal is an example of a nonrenewable resource because …
• One serious impact of carbon emissions is …
• The police officer was obviously a novice because …

Academic Language is particularly challenging for ELLs because ...


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Kinsella, 2005

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**Recognition Language Skills**
• Lead to superficial knowledge
• Are sufficient for a multiple-choice test
• Result in one- or two-word responses and
• Are inadequate to develop academic vocabulary
According to the NCTM:
The emphasis has shifted from students solving standard word problems to learners explaining solution processes, describing ideas, presenting arguments, and proving conclusions. During math lessons, there should be more emphasis on promoting classroom discourse by students questioning one another, reasoning rather than memorizing.  

Cuevas, 2005, p. 71

In grades 6-8, all students should be able to:

Compare and order fractions, decimals, and percents efficiently and find their approximate locations on a number line.

In grades 9-12, all students should:

Use number theory arguments to justify relationships involving whole numbers.

Benchmark MA.6.A.5.2

Yes – No – Why?

It can take many ELLs up to 13 years to develop academic language skills.

Yes, I agree with this assertion because ________
No, I do not agree with this assertion because ________

When? Warm-up activity, exit ticket, checking for understanding any time during the lesson.
Long-Term ELs

- Lived most/all of their lives in the U.S.
- Verbally bilingual
- Stalled in English language development
- Six+ years in English learner services
- Surrounded by other long-term ELs
- Academic performance:
  - Below grade level in reading & writing
  - Characteristically passive learners
  - Grade retention common
  - High-risk for dropping out

Olsen, L. (2010). Reparable Harm

Non-Engaging Classroom Practices

- Raise your hand if you know ________
- Who knows what ________ means?
- Can anyone tell me?
- Who has an example of ________?
- Would anyone like to share?
- Are there any questions?
- Is that clear?

Using Academic Language

- Which of these is right?

\textbf{OR}

- Which of the following expressions is correct?
Reducing the Language Load

*The ions that make up an ionic compound are arranged in a repeating three dimensional pattern called a crystal lattice.*

(Holt Science & Technology)
Cognitive Load

Reduce **language load** when focusing on content and skills.

Reduce level of difficulty of **content** when focusing on language.

---

Reducing the Content Load

The ions that make up an ionic compound are arranged in a repeating three-dimensional pattern called a crystal lattice.

The dog that lives at the fire station makes weekly demonstrations for school children on the stop, drop, and roll method.

---

Going Beyond The Word Level

Gills allow fish to breathe, while fins and tails enable swimming.

Feathers allow birds to keep warm and attract mates, while wings and tails enable flying.
Sentence Frames

- I believe/imagine/predict
- I conclude/deduce/suspect/speculate
- As ______ already pointed out, I think that …
- I want to find out more about/I am beginning to wonder if …
- ______ told me/explained to me/mentioned/shared

- I found out that . . .
- I learned/heard/discovered . . .
- I was surprised that . . .
- I now realize . . .
- In my opinion . . .
- I think . . .
- ______ emphasized that . . .
- It seems to me that . . .
- I agree with ______ that . . .

Sentence Frame Sorting Activity

<table>
<thead>
<tr>
<th>SOLID</th>
<th>LIQUID</th>
<th>GAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>milk</td>
<td>no definite shape or volume</td>
<td>has a certain size or shape</td>
</tr>
<tr>
<td>no color</td>
<td>television</td>
<td>can be poured</td>
</tr>
<tr>
<td>chair</td>
<td>water</td>
<td>oxygen</td>
</tr>
</tbody>
</table>

Sample Math Sentence Frame

Compare your shape □ to this one: □
- How is it different? How is it alike?

“Our shape is a □□□□. One similarity between the □□□□ and the □□□□ is that □□□□□□□□□□□□. However, the □□□□ has □□□□□□□□□□□□, while the □□□□ has □□□□□□□□□□□□.”
Although ________ and ________ have many differences, they are similar in a variety of ways. First, ________ and ________ are similar because they both ________. Additionally, they both ________. On the other hand, one of the differences between ________ and ________ is ________. Also, ________ whereas ________ does not.

• Add comment or connection

**Compare/Contrast Writing Frame**

**Beginning/Early Intermediate**

A _____ is a _____.

**Intermediate**

A _____ is a _____. because _____.

**Early Advanced/Advanced**

A _____ is a _____. because _____. It is not _____ because _______.

**Categorizing**

**Bury Common Terms**

- write down
- draw
- pass out
- pick up
- show (me)
- question
- answer

- tell
- figure out
- find
- sort
- think about
- finish
- talk about
Academic Language: Writing

<table>
<thead>
<tr>
<th>State title and author</th>
<th>State an inference about character change or theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>The book/story/novel “TITLE” by (author) ...</td>
<td>Key phrases to communicate theme ... is about ... ...explores... ...reminds us ... ...examines... ...highlights the importance of ... ...demonstrates that ...</td>
</tr>
<tr>
<td>“TITLE” by (author) ...</td>
<td></td>
</tr>
<tr>
<td>in the book/story/novel “TITLE,” the author ...</td>
<td></td>
</tr>
</tbody>
</table>
| in the book/story/novel “TITLE” by (author), ... | Key phrases to show character change ... (character name) learns/disCOVERs/realizes/uncovers/faces/encounters ...

Examples
The novel “To Kill a Mockingbird” explores prejudice and justice. In “Charlotte’s Web” by E.B. White, Wilbur learns the significance of friendship and loyalty.

Adapted from Tonya Ward Singer (2006)

<table>
<thead>
<tr>
<th>Language component</th>
<th>Sample words and frames</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample verbs and adjectives for stating an opinion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some strongly disagree with allowing students to bring cell phones to school. It is inappropriate to let students bring phones to school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verbs and adjectives</td>
<td></td>
<td></td>
</tr>
<tr>
<td>suggest, recommend, advocate, strongly disagree, agree, urge, should, benefit</td>
<td>If students brought cell phones to school, the bells and ring tones would interrupt classes all day long.</td>
<td></td>
</tr>
<tr>
<td>inaccurate, inappropriate, harmful, unwise, beneficial, effective, excellent, responsible</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cause-and-effect words and phrases to justify an opinion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Because, since, so, due to, will help you supports the argument that ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditional tense for giving examples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If ... would ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes: since, so, due to, will help you supports the argument that ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phrases to acknowledge and address counter arguments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>People may ... I realize ... I understand ... I can see why ... You might think ... While people may argue that cell phones are necessary for emergencies, they should consider that every classroom already has a regular phone.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By acknowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By counter or contrast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>while, although, however, yet, contrary to, but</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Words for drawing conclusions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>in conclusion, thus, therefore</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Using Precise Language

- report
- speak
- tell
- articulate
- conclude
- SAY
- utter
- convey
- state
- describe
- declare
- pronounce
- verbalize

Adapted from Tonya Ward Singer (2006)
### Make a Match

**COLUMN A**  
- report  
- exclaim  
- reply  
- describe  
- utter  
- urge  
- whisper  
- mumble  
- declare

**COLUMN B**  
- angry customer  
- mayor  
- witness  
- crying child  
- librarian  
- nosy neighbor  
- busy secretary  
- anxious mom  
- smartest student

### What? So What? Now What?

- **What?** Question related to content
- **So What?** Quick analysis
- **Now What?** How to apply

### Classroom discussion....

...is rare and brief

<table>
<thead>
<tr>
<th></th>
<th>Low track classes</th>
<th>Middle track classes</th>
<th>High track classes</th>
<th>Mixed classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minutes of discussion/lesson</td>
<td>0.70</td>
<td>1.44</td>
<td>3.30</td>
<td>1.42</td>
</tr>
</tbody>
</table>

Applebee, Langer, Nystrand, & Gamoran, 2003; Gamoran & Nystrand, 1991
Marking Cohesive Ties

The heated air above a fire rises in a pillar of smoke and burnt gases, pulling fresh air in from the sides to replace it. Firefighters use this fact when they ...

Louisa Moats. It's Not the Arrow, It's the Archer!

Referents

<table>
<thead>
<tr>
<th>Mary</th>
<th>1</th>
<th>cookies</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sally</td>
<td>2</td>
<td>kitten</td>
<td>5</td>
</tr>
<tr>
<td>grandma</td>
<td>3</td>
<td>house</td>
<td>6</td>
</tr>
</tbody>
</table>

Sally came over to play at Mary's house. She was so excited to visit her house because she had heard it was a beautiful place. When she got there, Mary's grandmother opened the door. Her grandmother offered her some cookies and milk while she waited for her friend to show up. She came out of the kitchen carrying a great big tray full of different kinds of cookies. They were delicious. Finally, her friend showed up with a surprise in her hands. It was a fluffy, white kitten! It was tiny and soft. They played with it the entire afternoon.

Chunking Text

Tobacco is a custom loathsome to the eye hateful to the nose harmful to the brain dangerous to the lungs and in the black stinking fume thereof nearest resembling the horrible smoke of the pit that is bottomless.

Tobacco is a custom loathsome to the eye hateful to the nose harmful to the brain dangerous to the lungs and in the black stinking fume thereof nearest resembling the horrible smoke of the pit that is bottomless.

James I (1604). A Counterblast to Tobacco
Sentence Unscrambling

- a mortgage financier
- the father was respectable and tight
- and forecloser
- and a stern, upright collection-plate passer

According to the IRA 95% textbooks and 93% teachers teach comprehension through vocabulary

Do you know the meanings of these words?

- are
- between
- consists
- if
- continuously
- corresponding
- curve
- draws
- variation
- graph
- isolated
- known
- making
- only
- often
- with
- one
- points
- set
- relation
- table
- values
- variables

Last Serny, Flingedobe and Pribin were in the Nerd-link trepping gloopy caples and cleaming burly greps. Suddenly a ditty strezzle boofed into Flineldobe’s tresp. Pribin glaped and glaped. “Oh, Flingedobe,” he chifed, “that ditty strezzle is tunning in your grep!”
Word Order

faults if loved
more show virtues wish

“___ you ___ to be ___, ___ ___ of your ___ than your ___.”

Edward Bulwer-Lytton

Sentence Scramble

children new will
The the school go to

A-B-C

1. Ask a question related to a topic of study
2. Students answer the question,
3. Back it up with evidence (text, personal experience, observation),
4. And then make a comment or connection

“I believe that learning to speak a second language is very beneficial (A). Learning a second language exercises the brain and improves memory (B). I plan to study and learn how to speak Italian because I love how it sounds (C).”
A-B-C

What is your opinion regarding the role of active engagement when teaching English Language Learners?

Take the Academic Language Oath!

“I will ensure that EVERY single student in my class speaks, and often also writes, at least one meaningful academic sentence EVERY day!”

Pretend you are an author that is writing a college-level textbook about instruction for English language learners. One of the chapters in this textbook addresses academic language. With your neighbor, write a sentence about academic language for your textbook.
Use of Oral Language

- Provide ELL with frequent opportunities to use oral language in the classroom (Arreaga-Mayer & Perdomo-Rivera, 1996).
  - Only 4% of ELLs’ day was spent engaging in “student talk”
  - Only 2% of ELLs’ day was spent engaging in “academic talk” (Vanessa Giral, Project ELLA)
  - Active, daily language use should be structured to include both conversational and academic discourse (Gersten & Baker, 2000).
- Encourage parents to read to their children in their home language (Quirino, 2002).

Academic Vocabulary

<table>
<thead>
<tr>
<th>Content Area Vocabulary</th>
<th>General Academic Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell</td>
<td>process</td>
</tr>
<tr>
<td>divisor</td>
<td>categorize</td>
</tr>
<tr>
<td>plot</td>
<td>maintain</td>
</tr>
<tr>
<td>civilization</td>
<td>describe</td>
</tr>
</tbody>
</table>

Robert Marzano

Averil Coxhead

http://jc-schools.net/tutorials/vocab/index.html
http://www.victoria.ac.nz/lals/resources/academicwordlist

Explicit Instruction of Words-Selection of Vocabulary

- In content area classes, add Academic Vocabulary to content area words.
  - Suggested words - feudalism, fief, vassal, primogeniture, manorialism, serfs, chivalry
  - Added Academic Vocabulary - maintain, maintenance; inherit, inheritance; analyze, analyzing, analysis; obligations; complement

Anita Archer, 2005
Math Vocabulary Cards
Give Definition, Example, and Circle Target Vocabulary

Polygon
A polygon is a closed figure whose sides are all line segments

A rectangle is a polygon with opposite sides parallel and four right angles
A quadrilateral is a polygon with four sides

Definition

Constructing Meaning

My Content Dictionary

<table>
<thead>
<tr>
<th>New Word</th>
<th>My Definition</th>
<th>Example</th>
<th>Non-Example</th>
<th>Sentence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polygon</td>
<td>A polygon is a closed figure whose sides are all line segments</td>
<td></td>
<td>A rectangle is a polygon with opposite sides parallel and four right angles</td>
<td>A quadrilateral is a polygon with four sides</td>
</tr>
</tbody>
</table>

Activities

Frayer Model

Characteristics
• closed figure
• sides are line segments

Examples
• triangle
• rectangle
• square
• rhombus

Non-Characteristics
• open figure
• sides are not line segments

Examples

polygon

Non-Examples
• not a line segment
• open figure

Making Connections: Academic Language and Mathematics for English Learners. Sonoma County Office of Education
Double Bubble

Vocabulary Word Sorts

<table>
<thead>
<tr>
<th>insects</th>
<th>shapes</th>
<th>plants</th>
<th>other</th>
</tr>
</thead>
<tbody>
<tr>
<td>bee</td>
<td>oval</td>
<td>leaves</td>
<td>violin</td>
</tr>
<tr>
<td>thorax</td>
<td>pyramid</td>
<td>stem</td>
<td>mug</td>
</tr>
<tr>
<td>arthropod</td>
<td>sides</td>
<td>roots</td>
<td>sheep</td>
</tr>
</tbody>
</table>

Content Area Word Wall

PHOTOSYNTHESIS

- leaves
- chlorophyll
- oxygen
- mesophyll cells
- carbon dioxide
- sunlight
- stoma
- chloroplasts
- glucose
- algae
- synthesis
- water
- autotrophs
Vocabulary Logs

Why?

• Elaborative/additional practice
• Multiple exposures
• Accountability
• Cumulative
• Used for games/reviews/quizzes/writing
• Easy to do, low prep, big payoff

Feldman, 2005

¡Gracias!
Thank You!
marguelles@aol.com