

WHAT WORKS CLEARINGHOUSE PRACTICE GUIDE

Teaching Academic Content and Literacy to English Learners in Elementary and Middle School

Webinar May 1, 2014



Introduction

by
Joy Lesnick
Acting Associate Commissioner, NCEERA



www.whatworks.ed.gov





Evidence for What Works in Education

We review the research on the different programs, products, practices, and policies in education.

Then, by focusing on the results from highquality research, we try to answer the question "What works in education?"

Our goal is to provide educators with the information they need to make evidencebased decisions.



What's New?

WWC Reviews Study of Solve It! Program

New WWC Quick Review on "Efficacy of the Responsive Classroom Approach: Results From a 3-Year, Longitudinal Randomized Controlled Trial"

Apr 24

The Impact of Need Based-Grants on Postsecondary Outcomes Apr 22

Using Nontraditional Problem Formats for Addition Practice Apr 22

E-Book Now Available: Teaching Academic Content and Literacy to English Learners in Elementary and Middle School

research.

Select a topic... Search

The studies database contains

all WWC-reviewed studies.

Or search by topics in education.

· help students with special needs, ... or address your school's challenge!



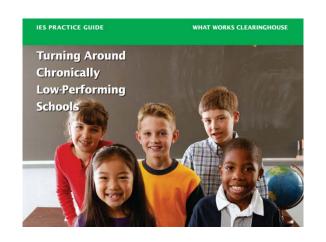
· increase math achievement in

preschoolers.

· reduce dropout rates,

School Improvement:

- Turning Around Low Performing Schools
- Dropout Prevention
- •Reducing Behavior Problems in Elementary Schools
- Organizing Instruction and Study



Literacy:

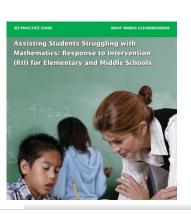
•Response to

Intervention: Reading

- Improving Adolescent Literacy
- •Effective Literacy Instruction for ELL Students
- Reading Comprehension
- Writing

Science and Math:

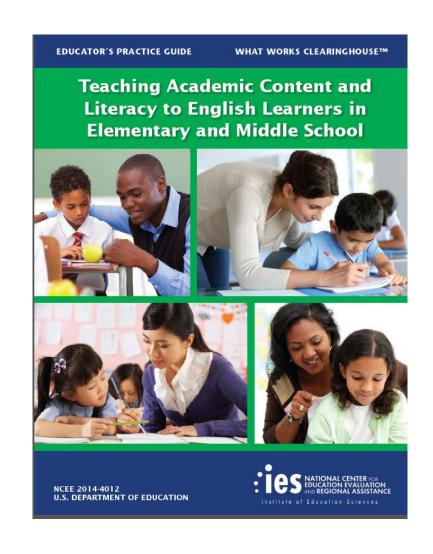
- •Response to Intervention: Math
- Mathematical Problem Solving
- Encouraging Girls in Math and Science
- Teaching Fractions





Updated English Learner Practice Guide

- Is a continuation and expansion of 2007 Practice Guide
- Expands from K-5 to K-8
- Builds on previous research while including new research-based recommendations





Panel

- Scott Baker (Chair) Executive Director, Center on Research and Evaluation, Southern Methodist University
- Esther Geva Professor, University of Toronto
- Michael J. Kieffer Associate Professor, New York University
- Nonie Lesaux Professor, Harvard University
- Sylvia Linan-Thompson Associate Professor, University of Texas at Austin
- Joan Morris Teacher Specialist, Pasadena Unified School District
- C. Patrick Proctor Associate Professor, Boston College
- Randi Russell Curriculum Support Specialist, Miami-Dade Public



Recommendations & Levels of Evidence

	Level of Evidence			
Recommendation	Strong	Moderate	Minimal	
1. Teach a set of academic vocabulary words intensively across several days using a variety of instructional activities.	•			
2. Integrate oral and written English language instruction into content-area teaching.	*			
3. Provide regular, structured opportunities to develop written language skills.			♦	
4. Provide small-group instructional intervention to students struggling in areas of literacy and English language development.		♦		



Webinar Presented By:

Scott Baker, PhD
Nonie Lesaux, PhD
C. Patrick Proctor, EdD





Nonie Lesaux

Professor, Harvard University



Recommendation 1

Teach a set of academic vocabulary words intensively across several days using a variety of instructional activities.

Level of Evidence: Strong



Evidence: *Strong*

- Based on six studies that met WWC standards
 - 5 randomized controlled trials
 - 1 quasi-experimental
- Can consider the application of the findings for PK-8 settings
 - One study primary grades (pre-K to 2)
 - 5 conducted in upper elementary & middle school years
- Studies were conducted in integrated settings involving English learners & native English speakers



What Does the Evidence Mean for Teaching?

Instructional Element

"How To's" for Educators

Text Selection and Use

Choose a brief, engaging piece of informational text that includes academic vocabulary as a platform for intensive academic vocabulary instruction.

Word Selection

Choose a small set of academic vocabulary for indepth instruction.

Word-Learning Activities

Teach academic vocabulary in depth using multiple modalities (writing, speaking, listening).

Word-Learning Strategy Instruction

Teach word-learning strategies to help students independently figure out the meaning of words.



How To Step 1: Choose a brief, engaging piece of informational text that includes academic vocabulary as a platform for intensive academic vocabulary instruction.

Contains ideas that can be discussed from a variety of perspectives.

Connects to unit of study and builds knowledge

The ethical treatment of animals

When you walk into a zoo today, the exhibits look different than they used to look years ago. Before the 1960s, zoos had cages with tile walls and floors. Now, animals in zoos live in more natural environments. For example, instead of enormous gorillas pacing back and forth in cramped cement areas, they play on soft grass and nap in trees. Before, large birds lived in small cages. Now, zoos have large exhibits where birds can stretch their wings and soar from tree to tree. According to zoo design expert Jon C. Coe, these changes often have a positive impact on animals' health and happiness.

Still, creating better living spaces is just one step toward improving the lives of animals that live in zoos. Even in exhibits that look like their natural environments, animals can become bored. According to Coe, boredom can have harmful effects.

"An exhibit may look great, but it isn't doing much for the animal unless it also involves a choice of things to do all day," said Coe. Animals need to be challenged with activities such as looking for food and exploring their surroundings. In fact, some research has shown that giving zoo animals more options and activities promotes good health and lowers the incidence of violent behavior. Today, several zoos have created living environments for their animals that involve the kinds of pursuits that Coe described. For instance, the orangutans at the National Zoo in Washington, DC can travel across the zoo on overhead ropes to visit friends.

Coe recommends more investigation into these types of zoo exhibits and their impact on animal health. With this new pursuit of creating more natural environments in zoo exhibits, he sees a happier and healthier future for many zoo animals.

Variety of target academic words

Environment Impact Investigation

Provides detail and examples, supporting comprehension



How To Step 2: Choose a small set of academic vocabulary for in-depth instruction.

	Frequently used in the text	Central to understand- ing the text	Appears in other content areas	Affixes	Multiple meanings and uses	Cross- language potential
Environment	Ø				\square	
Exhibit	Ø			\square		
Impact	\square					Ø
Investigation						Ø
Option						Ø
Pursuit	Ø				✓	



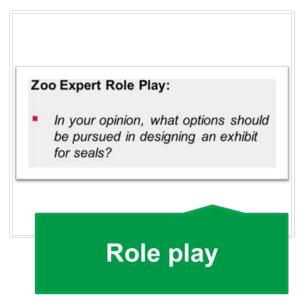
How To Step 3: Teach academic vocabulary in depth using multiple modalities (writing, speaking, listening).





How To Step 3 (cont.): Teach academic vocabulary in depth using multiple modalities (writing, speaking, listening).







How To Step 4: Teach word-learning strategies to help students independently figure out the meaning of words.

...A natural <u>environment</u> for a gorilla has grass and trees, while an unnatural <u>environment</u> is a cramped cement area...

Context clues

Sentence from the original text

Coe recommends more <u>investigation</u> into these types of zoo exhibits and their impact on animal health.



Word parts (morphology)

Rewritten Sentence

Coe recommends that scientists investigate types of zoo exhibits.

Cognates

opción in Spanish

opção in Portuguese

opsyon in Haitian Creole

VERBS
(Action)
(Person, Place, Thing or Idea)
Investigate

Exhibit
Exhibit
Opt
Opt
Option



Roadblocks and Solutions

Selecting texts outside the district-mandated curriculum is not an option at our school. We must follow strict scope restrictions and schedules.

Support teachers to:

- Put existing resources to use toward building academic vocabulary knowledge.
- Locate and select complex texts that are publicly available.

We do not have time to plan for this kind of instruction: there are so many pieces to teaching words deeply!

Professional collaboration is key.

- Arrange for educator teams to have common planning times.
- Support educators to use this time to problem-solve instructional questions and to build collective knowledge and expertise.





C. Patrick Proctor

Associate Professor, Boston College



Recommendation 2

Integrate oral and written English language instruction into content-area teaching.

Level of Evidence: Strong



Evidence: *Strong*

- Five randomized controlled trials met WWC standards
- Positive impacts on content-area acquisition measures developed by the researchers
- Relatively broad range of grade levels
 - Four studies conducted at the intermediate & middle school level
 - One study involved students in pre-K thru 2nd grade
- Classrooms contained both English learners & native English speakers



What Does the Evidence Mean for Teaching?

Instructional Element

"How To's" for Educators

Make Sense of Content

Strategically use instructional tools—such as short videos, visuals, and graphic organizers—to anchor instruction and help students make sense of content.

Academic Vocabulary

Explicitly teach the content-specific academic vocabulary, as well as the general academic vocabulary that supports it, during content-area instruction.

Pairs or Small Group
Discussions

Provide daily opportunities for students to talk about content in pairs or small groups.

Writing

Provide writing opportunities to extend student learning and understanding of the content material.



- How to Step 1: Strategically use instructional tools—such as short videos, visuals, and graphic organizers—to anchor instruction and help students make sense of content.
- How to Step 2: Explicitly teach the contentspecific academic vocabulary, as well as the general academic vocabulary that supports it, during content-area instruction.



How To Steps 1 & 2: Instructional Tools & Explicit Instruction

Ms. Concha's 6th Grade Sheltered Science Class¹

- Ms. Concha wants her students to be able to identify and articulate relevant evidence that supports the following claim: Antibiotics cure infection by killing all types of bacteria in the body, including the harmful bacteria that cause infection
- Text used: The Human Microbiome article²
- Words taught: relevant (makes the activity comprehensible); antibiotic and bacteria
- Claim reduction: Antibiotics kill bacteria

¹Curriculum developed by the Learning Design Group at the Lawrence Hall of Science, <u>scienceandliteracy.org</u>, and funded in part by NSF Grant #1119584 ²2013, Regents of the University of California



How To Steps 1 & 2 (cont.): Instructional Tools and Explicit Instruction

- Ms. Concha provides students with a series of cards (A – G) containing information that either supports or does not support the claim (i.e., is the information relevant to the claim or not?)
- Exhibits of the 7 card options follow



POLL: Which single card (A, B, C, D) provides information that is relevant to supporting the claim that *antibiotics kill* bacteria?

Quote from The Human Microbiome article: Quote from The Human Microbiome article: "Often, doctors treat infections with "The number of bacteria in the microbiome antibiotics. Antibiotics are medicines that of one human is millions of times greater kill bacteria." than the number of people living on Earth!" Microbiome @ 2013 The Regents of the University of California Microbiome © 2013 The Regents of the University of California Permission granted to purchaser to photocopy for classroom use Permission granted to purchaser to photocopy for classroom use. Quote from The Human Microbiome article: Even though they are so tiny, bacteria are living things. They share the same basic needs (such as food, warmth, and living "Unfortunately, not all bacteria are helpful. Harmful bacteria can invade the human space) with all other living things. microbiome through cuts, spoiled food, and even the air we breathe. An invasion of harmful bacteria is called an infection, and infections can make people very sick."



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The answer is

A



How To Steps 1 & 2 (cont.): Card Sort Options – *Antibiotics Kill Bacteria*

Quote from The Human Microbiome article:

"Often, doctors treat infections with antibiotics. Antibiotics are medicines that kill bacteria."

Quote from The Human Microbiome article:

"The number of bacteria in the microbiome of one human is millions of times greater than the number of people living on Earth!"

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Quote from The Human Microbiome article:

"Unfortunately, not all bacteria are helpful. Harmful bacteria can invade the human microbiome through cuts, spoiled food, and even the air we breathe. An invasion of harmful bacteria is called an infection, and infections can make people very sick."

Even though they are so tiny, bacteria are living things. They share the same basic needs (such as food, warmth, and living space) with all other living things.

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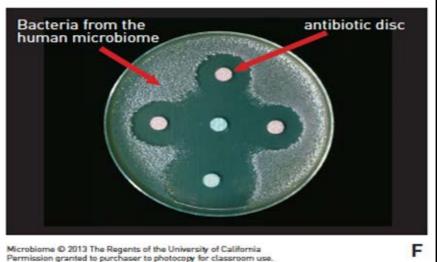


POLL: Which card(s) provide information that is relevant to supporting the claim that antibiotics kill bacteria?



This microorganism is an eyelash mite. It is harmless and lives next to the roots of eyelashes. The photo was taken through a microscope and shows the mite about 300 times larger than its actual size.

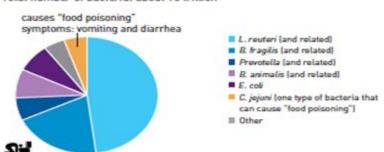
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Chart 2: Gut Bacteria in a Person with a "Food Poisoning" Infection (C. jejuni)

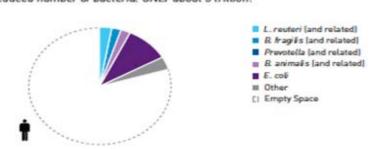
Total number of bacteria: about 90 trillion



What people call "food poisoning" isn't caused by poison: it's usually an infection with harmful bacteria such as C. jejuni.

Chart 3: Reduced Gut Bacteria After Treatment with Antibiotics

Reduced number of bacteria: ONLY about 5 trillion!



To treat harmful infections, antibiotics kill bacteria. After treatment with antibiotics, people have reduced numbers of bacteria in their microbiomes. In addition, they may have different types of bacteria than they did before.

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The answer is

F and G



How To Steps 1 & 2 (cont.): Card Sort Options – *Antibiotics Kill Bacteria*



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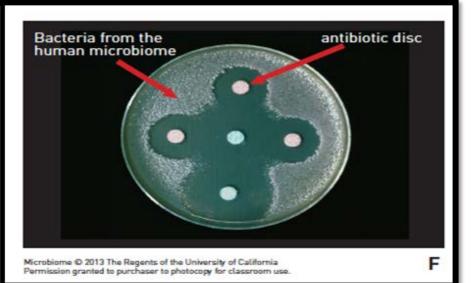
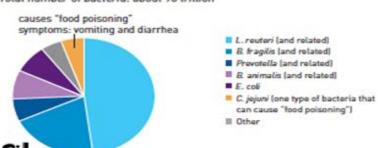


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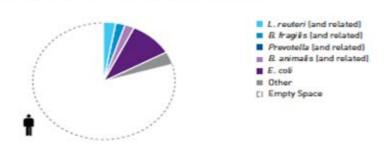
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G



How To Step 3: Provide daily opportunities for students to talk about content in pairs or small groups.



How To Step 3: Opportunities to Talk

- Ms. Concha groups her EL students in pairs to engage in the card sort activity. She puts two Spanish speaking students, Sofia and Eva, together
- Eva possesses higher English language proficiency than Sofia
- Brief excerpt of their conversation follows



How To Step 3 (cont.): Sofia and Eva's Interaction³

Turn	Speaker	Transcript
1	Sofia	¿Irá esta acá? (Does this one go here?) [Sofia places card in irrelevant pile.]
2	Eva	[Eva reads aloud the card] "Unfortunately, no all bacteria are helpful. Harmful bacteria can invade the human microbiome through cuts, spoiled food, and even the air we breathe. An invasion of harmful bacteria is called an infection, and infections can make people very sick."
3	Sofia	[Sofia chimes in and finishes reading aloud the card with Eva] –make people very sick. I think this here [Sofia points to irrelevant pile] because doesn't support the claim.
4	Eva	Why?
5	Sofia	Because dice (it says) [Sofia reads off card] Unfortunately not all bacteria are helful, helpful. Harmful bacteria can invade the human microbiome through cuts, spoil food, microbiome through cut. I think, you no puedo hacer bien la cosa esta. (I can't do this thing well)
6	Eva	Okay, I think here is [Eva points to cards in irrelevant pile] here are information because they are like no connecting in the claim because they don't have any antibiotics and kills and bacteria, like B right? And here [Eva points to cards in the relevant evidence pile] they have, we have to see and read if they are [Eva points to claim card] antibiotics killing bacteria. And here this say [Eva points to card in relevant evidence pile] antibiotics kill bacteria, that's why it's here.

³ McNeill & Proctor, in review



Summary of Ms. Concha's Approach

- How-to 1: Approaches that help make sense of content
 - Card sort activity grounded in text provides linguistic and visual information for the students to consider in relation to the task
 - Allows students to physically engage with words, sentences, visuals, and ideas
- How-to 2: Explicit vocabulary instruction
 - Targets key vocabulary
 - Reduces linguistic complexity
 - Allows for cognitively complex explorations of content
- How-to 3: Opportunities for students to talk
 - Heterogeneous grouping by English language proficiency
 - Homogenous grouping by native language (Spanish)
 - Paired work for completing the activity
 - Allows language of discussion to vary



Roadblocks and Solutions

Teachers who specialize in the content areas of science, social studies, or mathematics may lack the expertise in language and literacy needed to integrate them with content learning, especially at the middle school level.

Thinking about creative ways to present information and ensure good collaborative discussion between and among students is not the type of literacy instruction that content area teachers typically worry about implementing.

Teachers may think that the additional focus on language will not be useful for native English speakers.

An additional focus on language is exactly the point of the common core, which was most certainly conceptualized with native English speakers in mind.



Recommendation 3

Provide regular, structured opportunities to develop written language skills.

Level of Evidence: Minimal



Evidence: *Minimal*

- Only two studies met WWC standards
 - one study focused on improving writing instruction through PD
 - the other was a complex academic vocabulary intervention
 - both were at the secondary level
- Broad research consensus that students get many opportunities to hear language, but fewer opportunities to use it productively in academic settings
- Wide open recommendation, but instruction should be grounded in a theory of language that considers expressive use as crucial for children acquiring new languages
- Expression is a means by which to:
 - practice language/promote oral language proficiency
 - display understanding of content



What Does the Evidence Mean for Teaching?

Instructional Element

"How To's" for Educators

Content Writing Assignments

Provide writing assignments that are anchored in content and focused on developing academic language as well as writing skills.

Language-Based Supports For all writing assignments, provide language-based supports to facilitate students' entry into, and continued development of, writing.

Pairs or Small Groups

Use small groups or pairs to provide opportunities for students to work and talk together on varied aspects of writing.

Assess Writing

Assess students' writing periodically to identify instructional needs and provide positive, constructive feedback in response.



- How To Step 1: Provide writing assignments that are anchored in content and focused on developing academic language as well as writing skills.
 - Consider different types of writing assignments Ms.
 Concha might pursue in light of her card sort lesson
- How To Step 2: For all writing assignments, provide language-based supports to facilitate students' entry into, and continued development of, writing.
 - Graphic organizers, sentence starters are common across many elementary and middle school classrooms
 - Teach directly to the unique vocabulary and syntactic demands of different content areas
 - Language-based supports might also be considered approaches that leverage the next how-to step



How To Step

- How To Step 3: Use small groups or pairs to provide opportunities for students to work and talk together on varied aspects of writing
 - Structured discussions allow students to extract ideas and apply them in their writing
 - Traditional writing workshop
- How To Step 4: Assess students' writing periodically to identify instructional needs and provide positive, constructive feedback in response
 - Quick-writes, exit slips, descriptions, definition writing, and summarizing may all serve as formative means by which to assess levels of vocabulary, syntax, and general writing
 - Serve also to assess degrees of comprehension of content



Roadblocks and Solutions

Teachers may be concerned with the limited amount of writing students produce when they are given an extended writing project.

- Ironically, this is often what causes many teachers to focus less on writing.
- Time on task will yield increasing quantities of student writing.

Designing and implementing effective peer collaborative activities can be difficult

- Peer collaboration can take the form of paired or small group discussions for brainstorming, feedback on drafts, or peer editing.
- Flexibility in using peer collaboration is important; not all students benefit from receiving or delivering feedback so here is a point where differentiation can be integrated into a writer's workshop model.



Questions....





Scott Baker

Executive Director, Center on Research and Evaluation, Southern Methodist University



Recommendation 4

Provide small-group instructional intervention to students struggling in areas of literacy and English language development.

Level of Evidence: *Moderate*



Evidence: *Moderate*

- Six randomized controlled trials met WWC standards
 - Five studies focused on primary (K-2)
 - One study focused on grades 6-8
- Results from six studies can apply to grades K-8
- Results were reported for the English learner sample or subsample, or for entire sample of students (both English learners & native English speakers)
- Assessed the impact of small-group interventions



What Does the Evidence Mean for Teaching?

Instructional Element

"How To's" for Educators

Identify Struggling Students Use available assessment information to identify students who demonstrate persistent struggles with aspects of language and literacy development.

Design Content

Design the content of small-group instruction to target students' identified needs.

Small-Group Instruction

Provide additional instruction in small groups consisting of three to five students to students struggling with language and literacy.

Basic Foundational Skills and Other Areas

For students who struggle with basic foundational reading skills, spend time not only on these skills but also on vocabulary development and listening and reading comprehension strategies.

Scaffolded Instruction

Provide scaffolded instruction that includes frequent opportunities for students to practice and review newly learned skills and concepts in various contexts over several lessons to ensure retention.



How to Step 4: For students who struggle with basic foundational reading skills, spend time not only on these skills but also on vocabulary development and listening and reading comprehension strategies.



How To Step 4: Mr. Parker's Mini-Vocabulary Lesson

Mini-vocabulary lessons for additional vocabulary instruction and practice.

This is essential for building English learners' general academic language skills. These lessons also provide students with additional opportunities to understand the specific texts they are working on during this additional reading instruction.

Brief, small-group instruction

Mr. Parker forms groups of about 3-5 students who are struggling with mastering new vocabulary words. The groups lasts 10-15 minutes and includes short-duration activities.



How To Step 4 (cont.): Mr. Parker's Mini-Vocabulary Lesson

Lesson Design

- Says the word: Mr. Parker introduces the work [e.g., instruction] by saying the word and the individual syllables: in-struc-tion.
- Student-friendly definition: He provides a student-friendly definition.
 [e.g., Instruction helps us understand how to make something or do something.]
- Examples: He provides an example. [e.g., A teacher gives instructions to his students so they know how to do their assignment.]
- Synonym: He provides a synonym to further clarify the word. [e.g., Another word for instructions is directions.]
- Writing Sentences: Before asking students to write sentences in their vocabulary journal, he models how to use the word in 3 sentences that illustrate the range of the word.
- Graphic Organizer: Students complete a graphic organizer that includes other vocabulary terms that were taught in the lesson.



■ How to Step 5: Provide scaffolded instruction that includes frequent opportunities for students to practice and review newly learned skills and concepts in various contexts over several lessons to ensure retention.



How To Step 5: Example of Teacher Think Aloud

- Teacher reads text about Rosa Parks & the Montgomery Bus Boycott
- Inferential Question:
 "How would you describe Rosa Parks?"
- Teacher Think-Aloud:

"In this story a bus driver asked Rosa Parks, an African American woman, to give up her seat to a white person. The author gives us clues about the type of person Rosa Parks was. The author writes that Rosa stayed in her seat; she was quiet and did not resist the police when she was arrested and fined 10 dollars. Based on these clues I would say Rosa was brave or courageous because she knew what the bus driver asked her to do was wrong and unfair, so she showed bravery and courage by staying in her seat, knowing she would be punished. Also, Rosa appeared calm, as she did not struggle when the officer arrested her."



Roadblocks and Solutions

Educators may be encouraged to use "one-size-fits-all" small-group interventions for students who are struggling.

- One-size-fits-all interventions are unlikely to meet diverse needs of English learners who struggle.
- Have a portfolio of intervention options, so that students receive instruction that is targeted to their identified needs.

Virtually all English learners will demonstrate difficulty with some aspect of language or literacy skills, making Tier 2 small-group supplemental instruction challenging to implement.

- In a given classroom there are likely to be aspects of grade-level reading comprehension with which a majority of English learners struggle.
- Teaching such skills should be integrated into typical classroom instruction rather than delegated to Tier 2.



Questions....



Wrap-up and Adjournment



Wrap-up and Adjournment

by Russell Gersten Director, Instructional Research Group

Thank You

