



English Language Learners: Success from Day One

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Outcomes: Participants will...

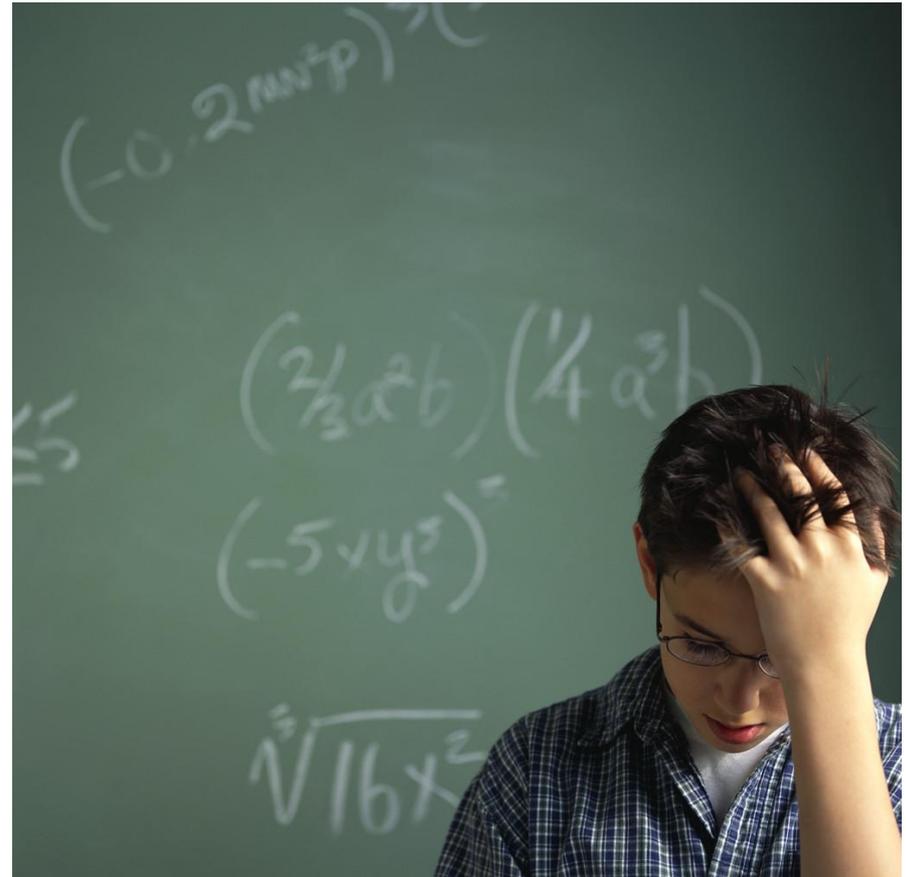
- Have fun
- Collaborate
- Learn some French
- Analyze math problems for math skills, language skills, and cultural/background knowledge
- Learn ways to set up ELLs for success in math

A problem in French:



WHAT MAKES MATH *PROBLEMS* CHALLENGING FOR ELLS?

...and what
teachers can
do about it!



Content-specific vocabulary:

Vocabulary

product

table

square

estimate

justify

demonstrate

Spanish Cognate

producto

tabla

cuadrado

estimar

justificar

demonstrar

Non-math vocabulary in math problems:

Example:

A gardener is selling chrysanthemums and azaleas for \$2 each and \$4 each, respectively. How many of each type of plant would the gardener need to sell to take in \$20?

A store is selling trees and flowers. A tree costs \$20 and a flower costs \$5. How many of each does the store need to sell to make \$100?
Show your work.

Presumed Cultural/Background Knowledge

At Jorge's local video store, "New Release" video rentals cost \$2.50 each and "Movie Classic" video rentals cost \$1.00 each (including tax). On Saturday evening, Jorge rented 5 videos and spent a total of \$8.00. How many of the 5 rentals were New Releases and how many were Movie Classics?

(8TH Grade NAEP Released Items, 2011)

Example: Golf Problem

Russell hits a golf ball, the path of which can be approximated by the equation shown below:

$$y = -\frac{1}{400}(x - 140)^2 + 49$$

y = height of the ball, in yards

x = horizontal distance, in yards

- Find the height of the ball after it has travelled a horizontal distance of 100 yards.
- What do the x -intercepts represent in the context of the problem?

Complex Grammatical Structure: Passive Voice

Passive voice tends to be harder to process.

Strategy: Use ACTIVE voice where possible:

(Passive) Two marbles were taken from the bag ...

(Active) Sara took two marbles from the bag ...

(Passive) Half the students were excused from class.

(Active) The teacher excused half the students from class.

Complex Grammatical Structure: Conditionals

Conditionals (hypothetical statements) with “If” clauses may be tough to process.

Strategy: AVOID the conditional where possible.

*(Conditional) If two batteries in the sample were dead,
(Indicative) Two batteries in the sample are dead.*

*(Conditional) If they had eliminated four bad apples,
then...*

*(Imperative) Eliminate (take away) 4 bad apples.
Then ...*

Complex grammatical structure:

The Stevens family had a 50-gallon water container. In an effort to conserve water, they reduced their daily consumption to three gallons per day. If they began with a full container, how many gallons would they have left after three days? Eight days? Twelve days? x days?

The Stevens family is hiking across the desert in Nevada. They have 50 gallons of water in a container at the beginning of the trip. Every day the family drinks a total of 3 gallons of water. How many gallons are left in the container after three days? --After eight days? --After twelve days? --After x days?

(Adapted from Celedon-Pattchis & Ramirez, 2012)

Be a Detective!

For the following PARCC Prototype Problem, think about:

PARCC Prototype Middle School Task: Spicy Veggies (Grade 7)

- 1) What math skills did you use when solving the problem?
- 2) What language skills did you use to solve the problem?
- 3) Can you identify any cultural/background knowledge that you brought to the problem?

Setting ELLs Up for Success



References:

Abedi, J. & Lord, C. (2001). *The language factor in mathematics tests*. *Applied Measurement in Education* 14(3) 219-234.

Celedon-Pattichis, S. & Ramirez, N.G. (2012). *Advancing mathematics education for ELLs: Beyond good teaching*. Reston, VA: NCTM.

Freeman, Y.S. & Freeman, D.E. (2002). *Closing the achievement gap: How to reach limited formal schooling and long-term ELLs*. Portsmouth, NH: Heinemann.

References, Continued

- Iddings, A.C., Combs, M.C. & Moll, L. (2012). *In the arid zone: Drying out educational resources for English language learners through policy and practice*. *Urban Education* 47(2) 495-514.
- Solano-Flores, G. & Trumbull, E. (2003). *Examining language in context: The need for new research and practice paradigms for testing of English-language learners*. *Educational Researcher*, 32(2), 3-13.
- Wagner, S. & King, T. (2012). *Implementing effective instruction for English language learners: 12 key practices for administrators, teachers, and leadership teams*. Philadelphia, PA: Caslon.



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