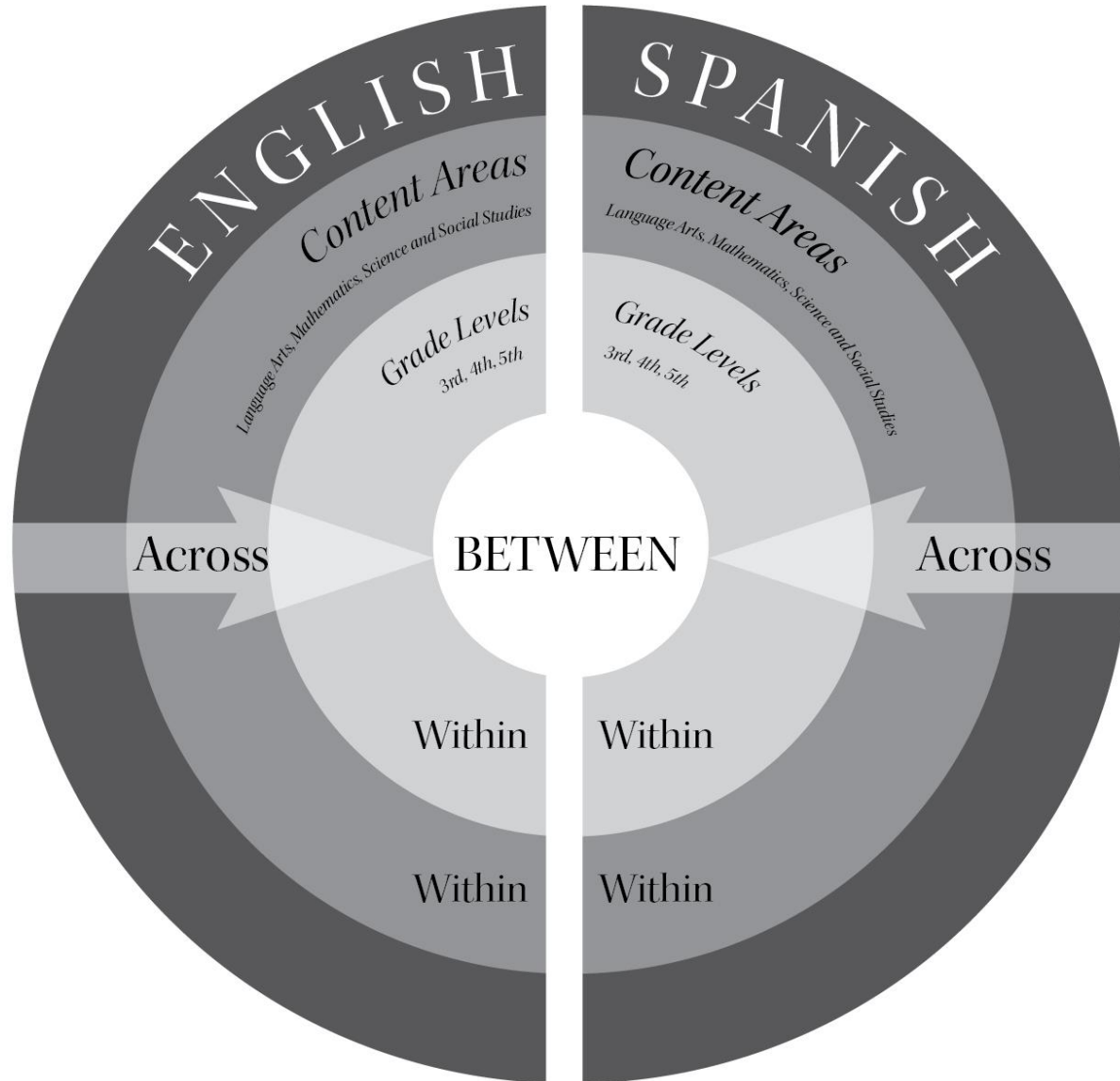


# MULTIDIMENSIONAL VISION



## Bilingual Academic Language Development for Emergent Bilinguals

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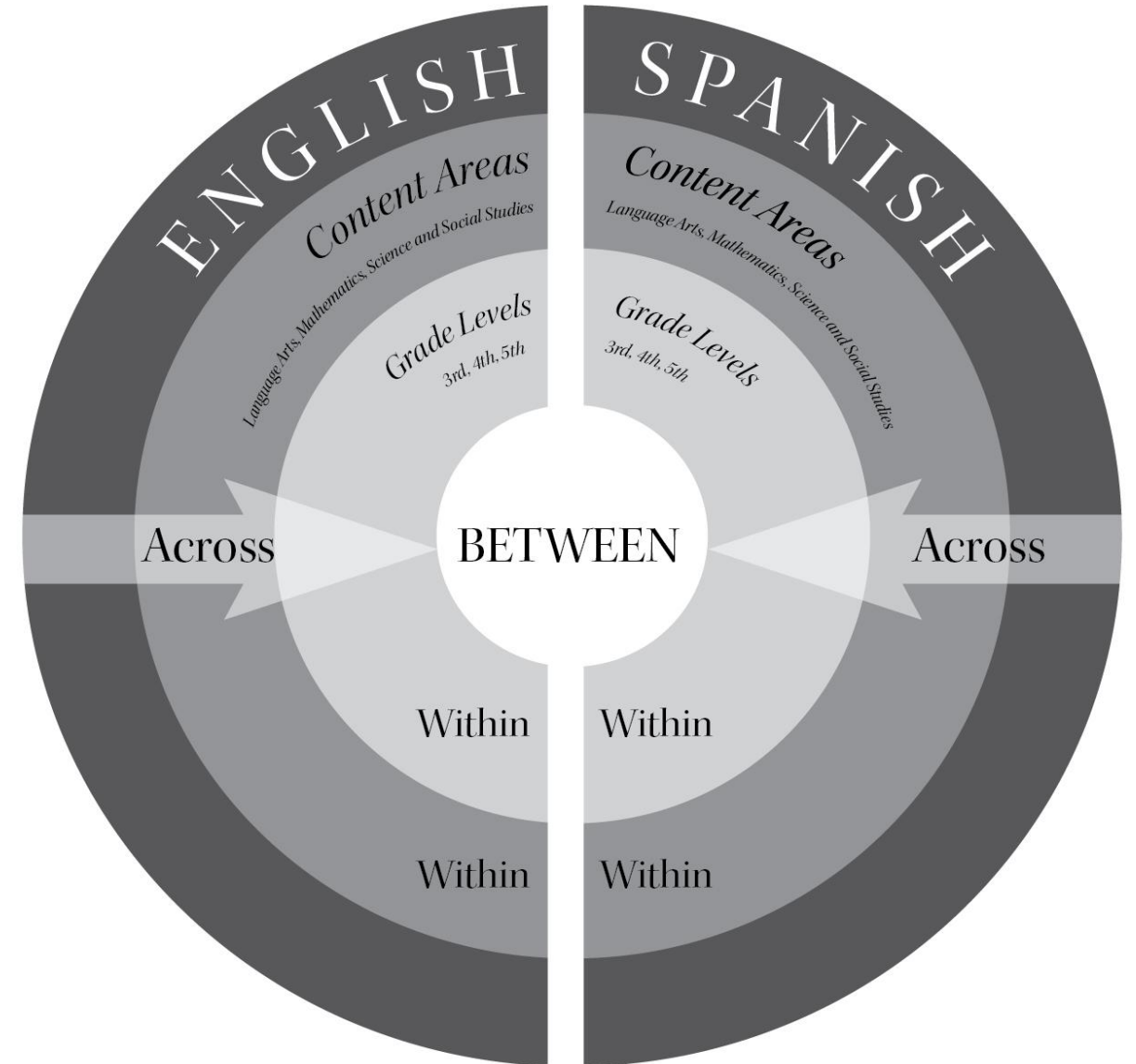
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University of Miami

# Rationale

- Demand for specialized language knowledge more prominent for EABs accessing academic content in two languages.
- *Emergent to Advanced Bilinguals* (EABs) need support in both content & language development
- To teach content, teachers must understand characteristics of academic language
- Attention to academic language requires specific linguistic analysis and understanding, not reliance on general strategies.

## Objectives & Significance

- To examine the characteristics of academic language
- To determine the linguistic characteristics of the content areas
- To show characteristics of academic language and differences across languages of the content areas for EABs
  - Content analysis of textbooks guided by Systemic Functional Linguistics
- This presentation reports on genre-based similarities and differences across texts and languages.



# Systemic Functional Linguistics

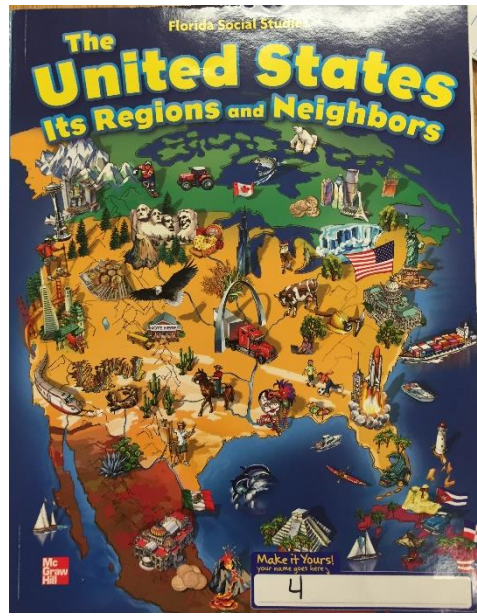
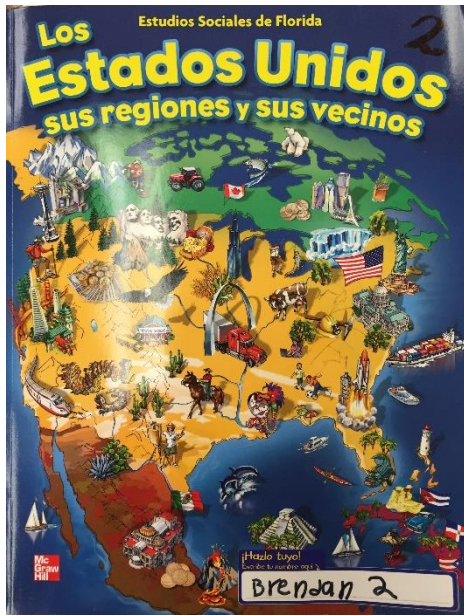
- Aids understanding of disciplinary language (e.g., O'Halloran, 2005; Schleppegrell, 2004; Christie, 2005)
- Allows us to identify how language works to construct disciplinary knowledge.
- Language is structured according to its purpose in a social context
- Language as a set of choices for meaning making

# Methodology

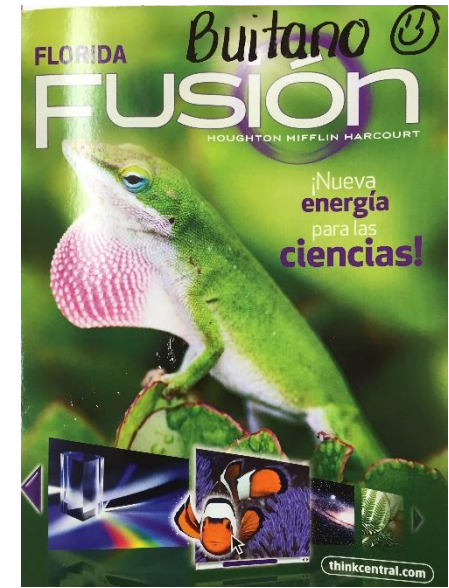
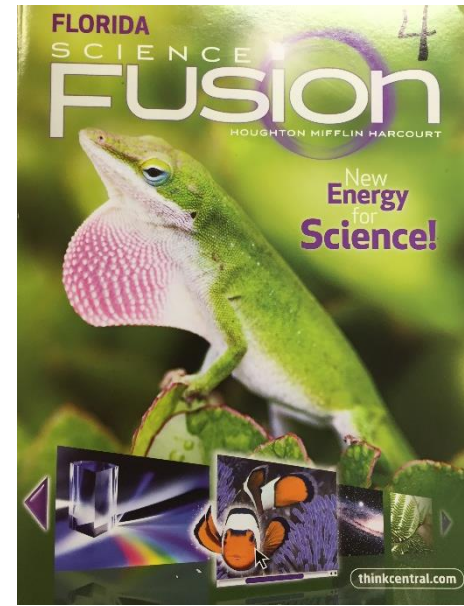
- Data sources
  - English and Spanish Elementary textbooks (mirror texts) used in Broward and Palm Beach counties (Florida) public school dual language programs.
- Data analysis
  - Content analysis of textbooks
  - Unit of Analysis – instructional macrogenre of textbooks (texts connected by theme in a unit)
  - Guided by a focus of
    - *Ideational metafunction* (Processes, participants, circumstances, & logical connectors)
    - *Textual metafunction* (Theme/Rheme, referents)
  - Compared/Contrasted across Spanish & English mirror texts



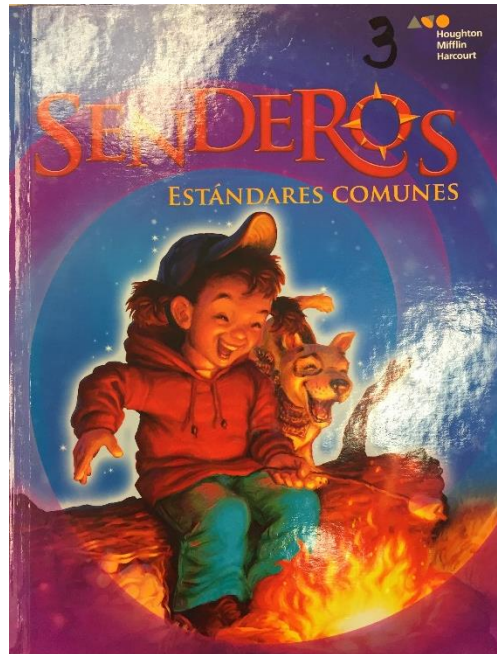
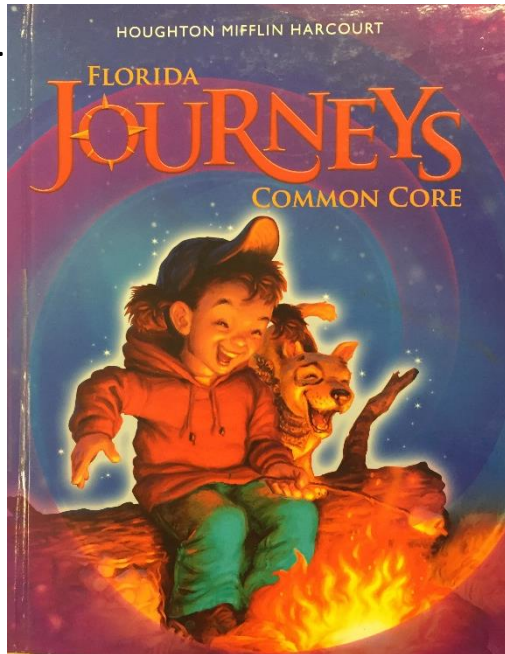
Social Studies



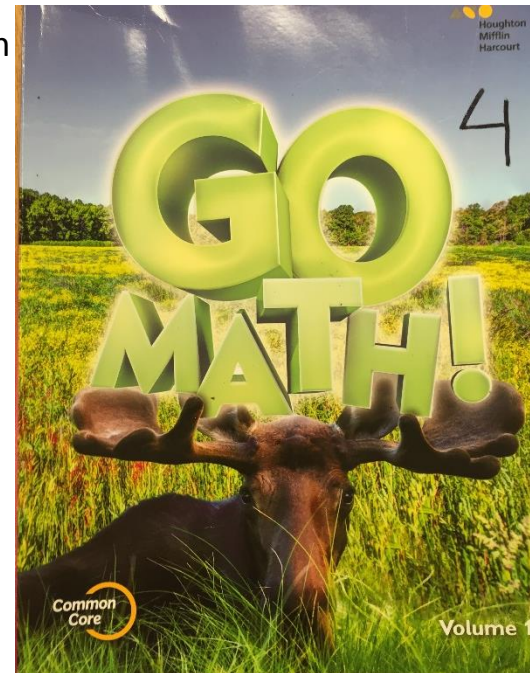
Science



Lang. Arts



Math





# Finding 1: In both English and Spanish, academic language is a formal, specialized register that differs from informal, social uses of everyday language.

EVERYDAY LANGUAGE	ACADEMIC LANGUAGE
Use of everyday vocabulary	Use of content-specific vocabulary: generalized, specialized, technical, abstract
Use of: <ul style="list-style-type: none"> <li>• Verbs to express processes</li> <li>• Adjectives to express qualities</li> <li>• Nouns to express people and things</li> <li>• Conjunctions to express logical connections (e.g. <i>and</i> or <i>but</i>).</li> </ul> This leads to less information packaging and low lexical density.	Use of: <ul style="list-style-type: none"> <li>• <b>Complex participant groups (including Nominalizations)</b> – use of nouns in place of what in everyday language would be a verb, adjective, or conjunction. This leads to information packaging and high lexical density.</li> </ul>
Sentences are: <ul style="list-style-type: none"> <li>• More fluid</li> <li>• Connected with frequent conjunctions (and, but, so, because)</li> <li>• Freer and less restrictive</li> <li>• More prominence of questions to invite interaction</li> </ul>	Include: <ul style="list-style-type: none"> <li>• A variety of sentence types</li> <li>• Long complex phrase groups</li> </ul>
Body language, gestures, intonation, stress, and tone convey meaning	Punctuation, headings, layout help make meaning in language
Less formal and precise	More formal and precise
Repetition, restatement, rephrasing	Editing and revising before final work published

# English & Spanish Language Differences in Academic Language: Technicality & Tier of Processes

## Puntos de referencia de México

¿Has visto alguna vez una roca que pareciera un animal o una planta? En México hay muchas rocas de este tipo. Estos puntos de referencia naturales tardan mucho tiempo en crearse. Las formas poco comunes de estas rocas se crean cuando la arena, llevada por el viento, se desplaza por sus superficies. La arena desgasta la roca más suave. La roca más dura no se desgasta tan rápido, lo cual crea estas formas.

En México también hay otros puntos de referencia naturales. El cañón del Cobre se localiza en la cordillera Sierra Madre Occidental. ¡Este cañón es más profundo que el Gran Cañón del Colorado en Estados Unidos! El cañón fue creado por los ríos que lo recorrieron. El cañón del Cobre recibe su nombre de las minas de cobre de la zona.

## Mexico's Landmarks

Have you ever seen a rock that looked like an animal or a plant? Mexico has many of these kinds of rocks. It takes a long time for these natural landmarks to be created. The unusual shapes are formed when sand blows across the surface of the rocks. The blowing sand wears away the softer rock. The harder rock does not wear away as fast, which forms these shapes.

Mexico has other natural landmarks, too. Copper Canyon is located in the Western Sierra Madre mountain range. This canyon is deeper than the Grand Canyon in the United States! The canyon was carved out by the rivers that flow through it. Copper Canyon gets its name from the copper mines in the area.



# English & Spanish Language Differences in Academic Language: Circumstances

## Puntos de referencia de México

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# English & Spanish Language Differences in Academic Language: Theme/Rheme

## Puntos de referencia de México

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pueblos en el campo.

La mayor parte de Estados Unidos se encuentra en el centro de América del Norte. Alaska está separado del resto del país por Canadá. La geografía de Alaska es una combinación de montañas, tundra y bosques exuberantes llenos de árboles y vida silvestre. Hawaii es un grupo de islas volcánicas situadas en el océano Pacífico. En el territorio continental de Estados Unidos, la geografía varía desde litorales, pasando por montañas y llanuras, hasta desiertos. A lo largo de Estados Unidos las personas viven en distintas zonas geográficas.

Most of the United States is in the middle of North America. Alaska is separated from the rest of the country by Canada. The geography of Alaska is a mix of mountains, tundra, and lush forests filled with trees and wildlife. Hawaii is a group of volcanic islands in the Pacific Ocean. In the continental United States, the geography varies from coastline to mountains to plains to desert. People live in different geographic areas throughout the United States. Mexico is located in the southern part of North America.



# English & Spanish Language Differences in Academic Language: Theme/Rheme

Como otros lugares sobre los que hemos aprendido, el Caribe es el hogar de muchos tipos de vegetación. Los bosques del Caribe tienen tanto árboles de hoja ancha como de hoja perenne. Plantas como helechos y vegetales crecen en los confines de estos bosques. Asimismo, en el Caribe también crecen cítricos como la toronja, además de los limones verdes y amarillos. Los habitantes del Caribe cultivan también plátano, coco, café y caña de azúcar. ¡Quizás hayas comido un plátano cultivado en el Caribe!

Like other places we have learned about, the Caribbean is home to many kinds of vegetation. The forests of the Caribbean have both broadleaf and evergreen trees. Plants such as ferns and mosses grow on the edge of these forests. Citrus fruit such as grapefruit, lemons, and limes grow well in the Caribbean, too. People in the Caribbean also grow bananas, coconuts, coffee, and sugarcane. Maybe you have eaten a banana that was grown in the Caribbean!

Finding 2: The academic language used in the content areas is structured and organized in discipline-specific ways, particular to each content area.

**What Onisha Did ...**

Onisha thought about rafts floating down a river. She asked a question, "Does the size of a raft affect the amount of weight it can carry?"

Onisha **hypothesizes** that a bigger raft can carry more weight. Then she predicted, "I should be able to add more **weight** to a bigger raft than to a smaller raft." Onisha planned an **investigation** called an experiment. Outside of science, **experimenting** means trying something new, such as a new recipe. In science, an **experiment** is a **test** done to gather evidence. The evidence might support the **hypothesis**, or it might not. In her experiment, Onisha built three model rafts that differed only in their number of planks. She carefully put one penny at a time onto each raft until it sank. She recorded her **results** and drew a conclusion.

Language of Science		
Characteristics	Language Features	Examples
Technical	<ul style="list-style-type: none"> <li>- Words that are unique to science</li> <li>- Everyday words with specialized meanings</li> </ul>	Hypothesizes Test Weight Results
Abstract	Nominalization	Investigation Experimenting Hypothesis
Dense	<ul style="list-style-type: none"> <li>- Long, complex noun groups</li> </ul>	"Onisha built three model rafts" "Their number of planks"
Tightly Knit	<ul style="list-style-type: none"> <li>- Lexicalized, lengthy, or abstract nouns as Themes</li> <li>- Zig-zagging or reiterating patterns of Thematic development</li> </ul>	"Onisha planned an investigation called an <b>experiment</b> . Outside of science, <b>experimenting</b> means...In science, an <b>experiment</b> is..."



Finding 2: The academic language used in the content areas is structured and organized in discipline-specific ways, particular to each content area.

## One Country, Five Regions

The United States is divided into five regions. A region is an area on Earth with common features that set it apart from other areas. The five geographic regions of the United States are the Southeast, the Northeast, the Midwest, the Southwest, and the West.

Areas within a region usually share similar types of landforms. They share a common climate, too. Climate is the weather in a certain area over a period of time. Regions also have their own types of vegetation. Vegetation is the kinds of plants that grow in an area. Regions have landmarks, which are important places or objects. Landmarks can be natural or man-made. In this lesson, you will learn about the climate, vegetation, landmarks, and other physical features of each region of the United States.

1. Write a t
2. Use the r
3. In which

Language of History/Social Studies		
Characteristics	Language Features	Examples
Descriptive	- Describing words (adjectives, adverbs)	<ul style="list-style-type: none"> <li>• Five</li> <li>• Common features that set it apart from other areas</li> <li>• Similar types of landforms</li> </ul>
References	- Make connections between words/phrases in the text	<ul style="list-style-type: none"> <li>• They share.. → areas within a region</li> <li>• Their own... → Regions</li> <li>• Vegetation – vegetation</li> </ul>
Definitions embedded	- Recognize the markers that introduce these definitions, different for each one of them	<ul style="list-style-type: none"> <li>• A region is...</li> <li>• Climate is...</li> <li>• The five geographic regions of the U.S. are...</li> </ul>

# English & Spanish Language Differences in Academic Language: Reference

## UN VISTAZO AL TEMA PRINCIPAL

### El sistema de tribunales

Los tribunales cumplen un papel importante en nuestras ciudades. Los juicios que se realizan en los tribunales pueden ser muy emocionantes. Imagina que a alguien se lo acusa de no haber cumplido la ley. El juez se sienta en el frente de la sala. Los testigos dicen lo que saben sobre el delito. El jurado, que está compuesto por doce personas, escucha toda la evidencia. Luego el jurado saca una conclusión. ¿El acusado es culpable o inocente?

En *El juicio de Cardigan Jones*, leerás sobre un juicio relacionado con un pastel perdido, un alce torpe y un juez sabio. Sigue leyendo y descubre si Cardigan Jones es culpable o inocente.


## PREVIEW THE TOPIC



### The Court System


Courts play an important part in our cities and towns. Courtroom trials can have a lot of drama. Imagine that a defendant has been accused of breaking a law. The judge sits at the head of the court. Witnesses tell what they know about the crime. The jury, with as many as twelve people, listens to all the evidence. Then the jury draws a conclusion. Is the defendant guilty or not guilty?



In *The Trial of Cardigan Jones*, you'll read about a trial involving a missing pie, a clumsy moose, and a wise judge. Read to find out whether Cardigan Jones is guilty or not guilty.

Finding 3: Access to the ways in which knowledge is constructed in the content areas depends on understanding the language that constructs that knowledge.

11.  Erin is putting a fence around her square garden. Each side of her garden is 3 meters long. The fence costs \$5 for each meter. How much will the fence cost?

12.   Gary's garden is shaped like a rectangle with two pairs of sides of equal length, and it has a perimeter of 28 feet. Explain how to find the lengths of the other sides if one side measures 10 feet.

11.  Erin colocará un cerco alrededor de su jardín cuadrado. Cada lado de su jardín mide 3 metros de longitud. El cerco cuesta \$5 por metro. ¿Cuánto costará el cerco?

12.   El jardín de Gary tiene forma de rectángulo. Tiene dos pares de lados de la misma longitud y un perímetro de 28 pies. Explica cómo hallar la longitud de los otros lados si un lado mide 10 pies.



# Finding 4: Similar features of academic language in English and Spanish offer cross-linguistic connections that can be used as a bridge for emergent to advanced bilinguals.

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## Lo que hizo Onisha

Onisha pensó en una balsa flotando en un río e hizo una pregunta: "¿Afecta el tamaño de una balsa la cantidad de peso que puede cargar?"

Onisha formuló la **hipótesis** de que una balsa más grande puede cargar más peso. Luego predijo: "Yo podría poner más peso en una balsa grande que en una balsa más pequeña". Onisha planeó una investigación llamada experimento. En términos no científicos, experimentar significa intentar algo nuevo, como una nueva receta. En términos científicos, un **experimento** es una prueba que se hace para reunir evidencias. La evidencia puede o no respaldar la hipótesis. En su experimento, Onisha construyó tres balsas modelo que solo se diferenciaban en el número de tablas en cada una.

Cuidadosamente puso una moneda de 1 centavo a la vez en cada balsa hasta que se hundió. Anotó los resultados y sacó una conclusión.

	English	Spanish
Cognates	Results Hypothesis Investigation Experiment Evidence	Resultados Hipótesis Investigación Experimento Evidencias
Cross-Linguistic Similarities: Morphology	Three model raft <u>s</u> <u>Thought</u> , planned <u>ed</u> , <u>built</u> , recorded <u>ed</u>  Carefully <u>ly</u>	tres balsa <u>s</u> modelo  pens <u>ó</u> , plane <u>ó</u> , construy <u>ó</u> , anot <u>ó</u>  cuidadosa <u>mente</u>
Cross-Linguistic Similarities: Syntax	<u>a</u> question, <u>the</u> amount  Onisha planned an investigation ( <u>SVO</u> )  At a time	una pregunta, <u>la</u> cantidad  Onisha planeó una investigación ( <u>SVO</u> )  A la vez



Finding 5: The academic language of English and Spanish offers unique, language-specific features that are organized and structured in distinct ways within and across content areas.

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Sac  
Analiza tu  
conclus

	English	Spanish
Vocabulary Translations	Weight Test Might Support Size	Peso Prueba Puede Respaldar Tamaño
Cross-Linguistic Differences: Morphology	Scientific terms  <u>She asked</u> a question  A Bigger <u>er</u> raft  <u>The</u> evidence	Termos <u>s</u> Científicos <u>s</u>  <u>Hizo</u> una pregunta  Una balsa <u>mas</u> grande  <u>La</u> evidencia
Cross-Linguistic Differences: Syntax	Three <b>model rafts</b>  <u>To</u> a bigger raft, <u>To</u> gather evidence  Onisha <u>hypothesizes</u>	tres <b>balsas modelo</b>  <u>En</u> una balsa grande, <u>Para</u> reunir evidencias  Onisha <u>formuló la hipótesis</u>

# Discussion

- Insight into language in the content areas through examination of academic language
- Highlighting similarities/differences across English & Spanish academic registers provides entry for EABs
- Shift dialogue from focus on language demands of text to include language affordances of EABs

# Thank you!

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