The Language-Rich Classroom Environment

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Classroom Profile (Week 1)

For this project, I will be focusing on my 6th grade co-taught math class. This is a general education class with a total of 17 students. Of these 17 students, 9 students have IEPs and 2 students are identified as EL. Also, of these 17 students, 15 are students of color coming from a variety of cultural backgrounds. This tells me that, even though there are only 2 identified EL students in this class, it is likely that most of our students speak or hear different languages at home. Thus, language scaffolds and supports could be beneficial for the majority of students.

The following data about language proficiency levels of our 2 EL students was retrieved from their most recent ACCESS scores (04/30/2021). I have also included both their current and successive Can-Do descriptors from WIDA for each language domain. I will use the successive Can-Do descriptors to guide my classroom displays and instructional tools in order to help these students make gains and move to the next level of language proficiency.

Student A **Home Language:** Spanish **Composite:** 3.7 - Developing

	Listening	**Speaking**	**Reading**	**Writing**
	6 - Reaching	3.4 -Developing	2.7 - Emerging	3.4 - Developing
Current Descriptors	Student has achieved English proficiency in this domain.	★ Begin to express time through multiple tenses ★ Retell/rephrase ideas from speech ★ Give brief oral content based presentations ★ State opinions ★ Connect ideas in discourse using transitions (e.g., "but," "then") ★ Use different registers inside and outside of class ★ State big/main ideas with some supporting details ★ Ask for clarification (e.g., self-monitor)	★ Sequence illustrated text of fictional and non-fictional events ★ Locate main ideas in a series of simple sentences ★ Find information from text structure (e.g., titles, graphs, glossary) ★ Follow text read aloud (e.g., tapes, teacher, paired-readings) ★ Sort/group pre-taught words/ phrases ★ Use pre-taught vocabulary (e.g., word banks) to complete simple sentences ★ Use L1 to support L2 (e.g., cognates) ★ Use bilingual dictionaries and glossaries	★ Produce short paragraphs with main ideas and some details (e.g., column notes) ★ Create compound sentences (e.g., with conjunctions) ★ Explain steps in problem solving ★ Compare/ contrast information, events, characters ★ Give opinions, preferences, and reactions along with reasons
Successive Descriptors	No successive descriptor exists.	★ Paraphrase and summarize ideas presented orally	★ Identify topic sentences, main ideas, and	★ Create multiple-paragraph essays

		★ Defend a point of view ★ Explain outcomes ★ Explain and compare content-based concepts ★ Connect ideas with supporting details/evidence ★ Substantiate opinions with reasons and evidence	details in paragraphs ★ Identify multiple meanings of words in context (e.g., "cell," "table") ★ Use context clues ★ Make predictions based on illustrated text ★ Identify frequently used affixes and root words to make/extract meaning (e.g., "un-," "re-," "-ed") ★ Differentiate between fact and opinion ★ Answer questions about explicit information in texts ★ Use English dictionaries and glossaries	★ Justify ideas ★ Produce content-related reports ★ Use details/ examples to support ideas ★ Use transition words to create cohesive passages ★ Compose intro/body/ conclusion ★ Paraphrase or summarize text ★ Take notes (e.g., for research)

Student B **Home Language:** Vietnamese **Composite:** 3.7 - Developing

	Listening	**Speaking**	**Reading**	**Writing**
	4.1 - Expanding	3.8 - Developing	3.2 - Developing	3.7 - Developing
Current Descriptors	★ Identify main ideas and details of oral discourse ★ Complete content-related tasks or assignments based on oral discourse ★ Apply learning strategies to new situations ★ Role play, dramatize, or re-enact scenarios from oral reading	★ Begin to express time through multiple tenses ★ Retell/rephrase ideas from speech ★ Give brief oral content based presentations ★ State opinions ★ Connect ideas in discourse using transitions (e.g., "but," "then") ★ Use different registers inside and outside of class ★ State big/main ideas with some supporting details ★ Ask for clarification (e.g.,	★ Identify topic sentences, main ideas, and details in paragraphs ★ Identify multiple meanings of words in context (e.g., "cell," "table") ★ Use context clues ★ Make predictions based on illustrated text ★ Identify frequently used affixes and root words to make/extract meaning (e.g., "un-," "re-," "-ed")	★ Produce short paragraphs with main ideas and some details (e.g., column notes) ★ Create compound sentences (e.g., with conjunctions) ★ Explain steps in problem solving ★ Compare/ contrast information, events, characters ★ Give opinions, preferences, and reactions along with reasons

		self-monitor)	★ Differentiate between fact and opinion ★ Answer questions about explicit information in texts ★ Use English dictionaries and glossaries	
Successive Descriptors	★ Use oral information to accomplish grade-level tasks ★ Evaluate intent of speech and act accordingly ★ Make inferences from grade-level text read aloud ★ Discriminate among multiple genres read orally	★ Paraphrase and summarize ideas presented orally ★ Defend a point of view ★ Explain outcomes ★ Explain and compare content-based concepts ★ Connect ideas with supporting details/evidence ★ Substantiate opinions with reasons and evidence	★ Order paragraphs ★ Identify summaries of passages ★ Identify figurative language (e.g., "dark as night") ★ Interpret adapted classics or modified text ★ Match cause to effect ★ Identify specific language of different genres and informational texts ★ Use an array of strategies (e.g., skim and scan for information)	★ Create multiple-paragraph essays ★ Justify ideas ★ Produce content-related reports ★ Use details/ examples to support ideas ★ Use transition words to create cohesive passages ★ Compose intro/body/ conclusion ★ Paraphrase or summarize text ★ Take notes (e.g., for research)

According to this data, both students achieved the same composite score on the ACCESS test. They are at the Developing Level (Level 3) of English language proficiency overall. Both students achieved their highest score in the listening domain. Both students achieved their lowest score in the reading domain, but at different levels. This tells me that both of these students would especially benefit from reading scaffolds. Both students are developing in the domains of speaking and writing, which means they would benefit from similar scaffolds in these areas to support their language development.

Another interesting similarity is that both students have strong math skills, according to my observations of their daily classroom performance. They both have strong computation skills, learn new math concepts quickly, and find success and joy in solving math problems. However, according to their NWEA MAP scores, they are both historically scoring near the below average range in math, which doesn't seem to match their performance in the classroom. The language on the MAP test could be what is hindering both students from showing their true math knowledge and skills. I hope that receiving more targeted language supports in the classroom will also help these students make gains on the MAP test, especially since it is a standardized assessment that is used to make many impactful placement decisions for our middle school students as they move on to high school.

Language Analysis (Week 2)

After analyzing multiple data sources of oral and written language used in our math classroom, it is evident that the language demands of mathematics are extremely high. Students are asked to use and understand language in so many ways. They are listening, speaking, reading, and writing in English every single day. Additionally, the language functions and features of mathematics are complex and require an extra level of critical thinking. When students are sitting and learning in our math class every day, they are developing both their math skills and language skills simultaneously. The content and the language are not mutually exclusive, which is why it is imperative that we understand the language demands of math and create appropriate scaffolds in order to help students, especially multilingual learners, succeed.

Language Domain 1 - Listening

- ★ Active listening to whole-group instruction and teaching of new concepts, requires sustained focus
- ★ Listening to teacher modeling and walking through example problems step-by-step
- ★ Speed and volume of oral instruction can impact understanding
- ★ Hearing an abundance of math-specific vocabulary words and phrases
- ★ Listening to peers' ideas and explanations during small and whole group discussions
- ★ Listening to two different teachers speak with different styles and pace
- ★ Listening to me frequently repeat important ideas that my co-teacher states
- ★ Listening to videos explaining math concepts, ability to pause/rewind
- ★ Listening to directions before a task
- ★ Listening to oral feedback in order to make corrections

Language Domain 2 - Speaking

- ★ Raising hand and answering a question posed to the class during whole-group discussion
- ★ Some students cold called on and asked to answer a question or share an idea
- ★ "Turn and talk" to peers about a math problem at small group table, working collaboratively, explaining ideas to each other
- ★ Presenting ideas to the whole class
- ★ Choral counting during math talks
- ★ Repeating after me, important vocabulary words/phrases, sounding out new, complex words
- ★ Using accurate math-specific vocabulary and disciplinary language when articulating understandings and reasoning out loud
- ★ Speaking about relevance of concepts to own lives, sharing personal stories
- ★ Explaining why or why not orally
- ★ Often the same students raise their hand to share their ideas and explain their thinking

Language Domain 3 - Reading

- ★ Reading directions on an assignment
- ★ Reading and making sense of a peer's work
- ★ Reading complex and multi-step word problems with different scenarios/contexts
- ★ Reading math vocabulary words and definitions
- ★ Reading long and language-heavy explanations in textbook
- ★ Reading carefully and thinking critically to figure out what the problem is asking and what steps they need to take to solve
- ★ Reading tables, graphs, symbols, numbers, units, variables, charts, diagrams, maps
- ★ Reading written feedback in order to make corrections

Language Domain 4 - Writing

- ★ Writing final answers to word problems in complete sentences with accurate units
- ★ Writing justification of and reasoning behind answers
- ★ Writing down organized notes during instruction, fill-in-the-blank notes and open-ended notes
- ★ Writing down rules, algorithms, and step-by-step procedures in notes
- ★ Explaining why or why not through writing
- ★ Filling out graphic organizers
- ★ Explaining the steps taken to solve a problem

Language Functions

In mathematics, students are required to use language to cognitively process and learn. These language functions range from low cognitive demands to high cognitive demands. Some common language functions that are included in our math lessons and tasks are listed below.

- ★ Identify
- ★ Label
- ★ Enumerate
- ★ Classify
- ★ Sequence
- ★ Compare
- ★ Inquire
- ★ Describe
- ★ Define
- ★ Explain
- ★ Interpret
- ★ Analyze
- ★ Predict
- ★ Argue
- ★ Synthesize
- ★ Evaluate
- ★ Justify

Students have to use language in so many ways in order to engage in the cognitive processes that math requires. The higher cognitive demands, such as interpreting and justifying, require students to use complex language and math-specific vocabulary. These rigorous cognitive tasks can feel very intense and overwhelming for multilingual learners without the appropriate language scaffolds and supports.

Language Features

The language features of math at the word/phrase, sentence, and discourse level are also very rich and demanding. It is our job as teachers to identify these features and then develop scaffolds to help students access the language. Examples for each level are included below.

Word/Phrase Level

- ★ Heavy usage of math-specific vocabulary in oral and written language
- ★ Very specific and technical language
- ★ Multiple-meaning words
- ★ Formulaic expressions
- ★ Difficult to pronounce some vocabulary words
- ★ Challenging to get students to use the discipline-specific words when they speak or write
- ★ Each new topic has a brand new set of vocabulary to master
- ★ Synonyms (i.e. add, plus, altogether, combine, total, sum)

Sentence Level

- ★ Complex sentence structures consistently throughout textbook
- ★ Very formal, rigid, standard, academic language throughout text
- ★ We make our sentences more student-friendly and conversational during oral instruction
- ★ Unique sentence structures specific to math (i.e. cause/effect)
- ★ Word problems are challenging to dissect and understand
- ★ Use of passive voice, different verb tenses
- ★ Lexical bundles (i.e. as much as, greater than or equal to)
- ★ Prepositions (i.e. divided by vs divided into)

Discourse Level

- ★ Large quantity of oral and written discourse
- ★ Complex text in curriculum, problems packed with language and concepts, very dense
- ★ Textbook presents new information in paragraph form with complex syntax and and vocabulary
- ★ We often pause while teaching to repeat important ideas, clarify terms, break down the language orally
- ★ High cognitive demands when working in groups (i.e. justify, analyze)
- ★ Occasional informal class discussions about relevance of concept to our own lives, high student engagement

Contrastive Analysis (Week 3)

I focused my contrastive analyses on the home languages of my 2 EL students: Spanish and Vietnamese. I surveyed both students individually to gain insight on their home language competencies. English is not spoken in their households. Their families only use their home languages to communicate at home. Both students are proficient in reading, writing, listening, and speaking in their home languages. This is a huge asset to support their English language development. The contrastive analyses below are meant to serve as a starting point in developing my own multilingual and metalinguistic awareness and understanding the similarities and differences between English and the languages that my students speak.

Spanish and English

Phonology (Sound System)

- ★ Both languages have silent letters (i.e. "h" and "u" in Spanish, many in English)
- ★ There are many sounds that are similar in both languages, including consonants, long vowels, the *oy* diphthong, the *ch* consonant digraph, and consonant blends
- ★ The following sounds may not exist in Spanish, may exist but be pronounced somewhat differently, or may be confused with another sound:
  - Consonants: /j/, /r/, /v/, /w/, /z/
  - Short vowels: short *a*, short *e*, short *i*, short *o*, short *u*
  - Vowel patterns: *oo* as in book, *aw* as in saw
  - Diphthongs: *ow* as in how
  - *R*-controlled vowels: *ir* as in bird, *ar* as in hard, *or* as in form, *air* as in hair, *ear* as in hear
  - Consonant digraphs: *sh* as in shoe, *th* as in think, *ng* as in sing

Morphology (Word Formation)

- ★ There are prefixes and suffixes shared between both languages (cognates)
- ★ Spanish differentiates between *ser* and *estar*, while English only has is/are
- ★ Word order in Spanish is very flexible because there is more emphasis on morphology for meaning, while word order is less flexible in English and more critical for meaning
- ★ In Spanish, verbs can be conjugated in so many different ways and can present variation in person, number, tense, voice, etc.
- ★ Passive voice is more common in Spanish

Syntax (Sentence Structure)

- ★ Spanish word order commonly follows a Subject-Verb-Object, similar to English
- ★ When asking questions in Spanish, the order of the subject and the verb are commonly reversed, similar to English
- ★ Use of a prepositional phrase to express possession in Spanish, while 's is used in English
- ★ Inanimate nouns have feminine and masculine gender in Spanish, while neuter nouns in English do not have a gender
- ★ Adjectives can be used on their own in Spanish, whereas English often requires a noun or *one*
- ★ Adjectives commonly come after nouns in Spanish and before nouns in English
- ★ In English, a single vowel shift in the middle of the verb can produce a change of tense in irregular verbs, while Spanish requires a change in the ending of the verb
- ★ Some Spanish constructions use *have* where English uses *be*
- ★ The phrase with the indirect object can come before the direct object in Spanish
- ★ Word order is freer in Spanish than in English
- ★ Spanish requires double negatives in many sentence structures

Semantics (Word Meaning)

- ★ There are many cognates in both languages, words that have common origins and meanings, often look and sound similar, easy to recognize
- ★ Common origin for both languages is Latin, so many words have similar meanings
- ★ In Spanish, accent marks change the meaning of words
- ★ Spanish is a highly inflected language, inflections can affect the meaning of words in Spanish

Pragmatics (Language Use)

- ★ Questions about age avoid the word "old" in Spanish because it has negative connotations
- ★ Figurative language from English is translated directly into Spanish
- ★ In Spanish, "Are you coming to my party tomorrow?" is considered an invitation and actually means "Come to my party tomorrow"
- ★ It is polite to respond to a compliment in Spanish by removing importance instead of just "thank you"
- ★ In Spanish, personal questions are meant to be a sign of care and consideration, not nosiness
- ★ Use gestures more often when communicating in Spanish
- ★ Stand closer to one another when communicating in Spanish
- ★ Children from certain Spanish-speaking countries may not focus on details or sequence of events during storytelling

Sociolinguistic Lens

- ★ Because Spanish is one of the most popular languages spoken in America, it is widely known and learned by non-native speakers
- ★ Spanish is taught in many schools throughout the United States to students who want to learn a foreign language
- ★ Job applicants are considered to be "more marketable" if they are bilingual in Spanish
- ★ It is often considered more "valuable" and "admirable" when a white person is bilingual in Spanish
- ★ Except for Spanish classes or ESL classes, students are not very motivated to use Spanish at school in general education content classes and tend to use English only in order to be socially accepted

Vietnamese and English

Phonology (Sound System)

- ★ There are no consonant clusters or blends in Vietnamese
- ★ The following sounds may not exist in Vietnamese, may exist but be pronounced somewhat differently, or may be confused with another sound:
  - Consonants: /j/, /t/
  - Short vowels: short *a*, short *i*
  - Vowel patterns: *oo* as in book
  - *R*-controlled vowels: *ir* as in bird, *ar* as in hard, *or* as in form, *air* as in hair, *ear* as in hear
  - Consonant digraphs: *sh* as in shoe, *ch* as in chain, *th* as in think
  - Consonant blends: *bl, tr, dr*, etc. (start of words), *ld, nt, rt*, etc. (end of words)

Morphology (Word Formation)

- ★ Words are mainly monosyllabic in Vietnamese because its morphemes are monosyllabic, but some multisyllabic words exist and are formed by monosyllabic morphemes put together
- ★ Grammar in Vietnamese relies on word order and sentence structure instead of morphology
- ★ While English uses morphology to express tense, Vietnamese uses grammatical particles or syntactic constructions
- ★ Reduplication is used in Vietnamese, which is repeating a part of a word to form new words and

changing the meaning of the original word

Syntax (Sentence Structure)

- ★ Vietnamese word order commonly follows a Subject-Verb-Object, similar to English
- ★ Nouns do not change form to show the plural in Vietnamese, while English has the plural marker *-s*
- ★ Use of a prepositional phrase to express possession in Vietnamese, while 's is used in English
- ★ A noun's owner comes after the object in Vietnamese
- ★ Articles are either lacking or the distinction between *a* and *the* does not exist in Vietnamese
- ★ Direct objects are frequently dropped in Vietnamese
- ★ "Topic-comment" approach used in Vietnamese, the speaker mentions a topic and then makes a comment on it
- ★ It is common in Vietnamese to repeat nouns rather than to use pronouns
- ★ Adjectives commonly come after nouns in Vietnamese and before nouns in English
- ★ There is no verb agreement in Vietnamese
- ★ Verbs in Vietnamese do not change form to express tense
- ★ The verb *be* is not required in all sentences in Vietnamese

Semantics (Word Meaning)

- ★ Vietnamese is a tonal language
- ★ Each syllable has a tone and each tone changes the semantics of a word
- ★ Vietnamese tones include the following: level, breathing rising, breathing falling, falling-rising, creaky rising (low rising), low falling (low constricted)
- ★ To mark the tones, little marks are placed either under or over the vowel of a syllable
- ★ The meaning of a word is changed by the tone that is used, so correct tonal patterns are crucial for effective communication
- ★ Syllables in Vietnamese are produced with three degrees of stress: heavy, medium, and weak stress; heavy stress is used for new and important information, weak stress is used for less important information
- ★ Reduplication changes the intensity of an adjective and is often used as a literary device in poetry and in everyday speech

Pragmatics (Language Use)

- ★ In Vietnamese, terms of reference are most commonly kinship terms
- ★ In Vietnamese, it is important to address the audience appropriately based on social relationship, age, and gender
- ★ In Vietnamese, using a person's name is viewed as more personal and informal than using pronouns
- ★ In Vietnamese, it is important to be extremely polite when talking with strangers and respected people, it is more important to remain polite than to have efficient communication
- ★ In Vietnamese, peace and harmony are extremely important, it is common to smile or express understanding even when there is disagreement or a lack of understanding

Sociolinguistic Lens

- ★ It is not common to be able to learn Vietnamese in schools in the United States
- ★ Many students lose their Vietnamese if there is no one at home using it with them
- ★ Vietnamese is not as commonly known in America as a language like Spanish
- ★ Students are not very motivated to use Vietnamese at school and tend to use English only in order to "fit in" and be socially accepted
- ★ There are not many teachers, counselors, administrators, etc. in school settings that speak Vietnamese or know about Vietnamese culture
- ★ Vietnamese children have developed a "reputation" for high academic achievement, which could further motivate them to assimilate and speak English only

Language Goals (Week 4)

I have set four goals that intertwine math and language for the students in my co-taught math classroom. I aimed to keep the goals simple and straightforward, but still specific, in order to maintain clarity. The first two goals are Tier 1 goals targeted toward all students, and they will also benefit our 2 EL students according to their successive Can-Do descriptors in speaking. Most of our students are very quiet in class and are hesitant to participate. I believe that one reason for this is because they are not confident in their understanding of the math-specific vocabulary they need to use in order to share their ideas and articulate their understandings. Another reason could be because they don't know the sentence structures needed to explain their reasoning out loud. Thus, my first two goals are focused on the speaking domain in order to get more students feeling comfortable with talking about math. The more they talk about math, the deeper their conceptual understandings will become. I hope these goals will support students with accessing the complex language demands of mathematics at the word and discourse level.

My last two goals are individualized Tier 3 goals targeted toward our 2 EL students in the class. Both goals are focused on the reading domain because that was the lowest score both students achieved on the ACCESS test. Student A is at the Emerging Level in reading and Student B is at the Developing Level in reading. I jumped to the next level in reading for both students and used those successive Can-Do descriptors in order to create an attainable and appropriately challenging individualized goal for both students. The successive Can-Do descriptor that I aim to help Student A achieve is "use context clues." The successive Can-Do descriptor that I aim to help Student B achieve is "use an array of strategies (e.g., skim and scan for information)." I hope these goals will support both EL students with accessing the complex language demands of mathematics at the word/phrase and sentence level.

1. Tier 1 Goal (All Students - Speaking)
   Students will be able to **define** key math-specific vocabulary terms.

2. Tier 1 Goal (All Students - Speaking)
   Students will be able to **explain** their reasoning.

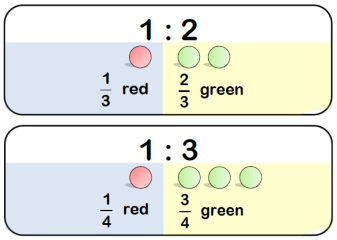
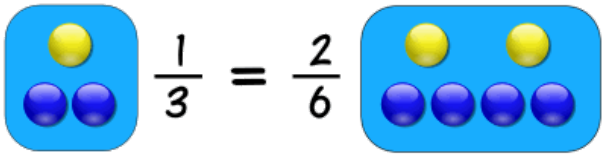
3. Tier 3 Goal (Student A - Reading)
   Student A will be able to **compare** the language used with different math operations.

4. Tier 3 Goal (Student B - Reading)
   Student B will be able to **identify** the key information in word problems.

Classroom Displays (Week 5)

Classroom Display for Goal 1: Word Wall

As a Tier 1 language support, I will create a permanent section in our classroom for a word wall. At the start of each topic, I will prioritize the most important math-specific vocabulary words that students should be able to understand and use. Each word will be accompanied by a clear definition and a visual example. Throughout the year, this word wall will continue to grow with each topic that we learn. To support students' retention of these math-specific words and definitions throughout the year, students will be able to refer to the word wall to refresh their knowledge on words learned in previous topics. We can also play fun vocabulary games using the key terms on the word wall. The goal is for students to engage in meaningful output when they are speaking in whole group and small group discussions by accurately using these math-specific vocabulary terms to articulate their ideas and understandings. The sample word wall below includes key words from our upcoming unit on ratios.

Math Word Wall		
ratio	A ratio is a comparison of two quantities that uses division. You can write a ratio as a part-to-part or part-to-whole relationship.	
percent	A percent is a part-to-whole ratio where the whole is equal to 100. Percent is another name for hundredths. The percent symbol "%" means "per 100," or "out of 100."	
equivalent ratios	Equivalent ratios represent the same part-to-part or part-to-whole relationship.	
rate	A rate is a ratio that compares two quantities that are measured in different units.	60 miles / 3 hours 40 words / 2 min.
proportion	A proportion is an equation that states that two ratios are equal.	

Classroom Display for Goal 2: Sentence Stems

As a Tier 1 language support, I will put up sentence stems in one section of the classroom that will support students with explaining their reasoning while speaking in discussions. I can also print these sentence stems and tape them to students' desks for even easier access. At the start of each topic, I will put together different types of sentence frames, along with key terms, that could be used to explain reasoning. It is important to differentiate these sentence stems by topic because, for example, explaining reasoning about volume and surface area requires different sentence structures and vocabulary than explaining reasoning about ratios. The goal is for students to engage in meaningful output when they are speaking in whole group and small group discussions by accurately using math-specific sentences and vocabulary to articulate the reasoning behind their answers. I hope this scaffold will help students feel more confident, independent (needing less probing questions), and set up for success when they are asked to share their answers and reasoning out loud during discussions. The sample sentences stems below will support students with explaining their reasoning about equivalent ratios and proportions during our upcoming unit on ratios.

Explaining Why Two Ratios are Equivalent

These are _____ ratios. The ratio _____ is equivalent to the ratio _____ because both the _____ and _____ are _____ by the same number: _____. Therefore, these two ratios can be _____ to each other and create a _____.

Explaining Why Two Ratios are NOT Equivalent

These are _____ ratios. The ratio _____ is NOT equivalent to the ratio _____ because the _____ and _____ are not _____ by the same number. The _____ is multiplied by _____, while the _____ is multiplied by _____. Therefore, these two ratios cannot be _____ to each other and do NOT create a _____.

Word Bank

equivalent	multiplied
inequivalent	set equal
numerator	proportion
denominator	

Instructional Tools (Week 6)

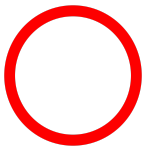
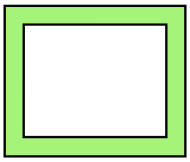
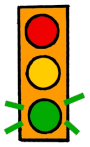
Instructional Tool for Goal 3: Comparison Chart

As a Tier 3 language support for Student A, I will create a comparison chart of common words and phrases that are associated with each one of the four math operations. One of the most important parts of comprehending and solving a math word problem is determining which operation or operations need to be performed to arrive at the final answer. I will print this chart out and give it to Student A to always have easy access to support his reading comprehension with complex word problems. By being able to compare the differences between the common words and phrases associated with each operation, he will better understand what the word problem is asking him to do and be able to quickly identify which operation or operations he needs to use in order to solve. This is a skill that will increase the accuracy of his work and be useful to him in 7th and 8th grade as well. The goal is for Student A to engage in comprehensible input when he is reading word problems and use his knowledge of the different language used for each operation in order to choose the correct operation needed to solve. I also translated the operations in Spanish in order to build connections between the student's home language and English.

Addition ➕ La Adición	Subtraction ➖ La Sustracción
★ add ★ sum ★ total ★ combine ★ altogether ★ in all ★ plus ★ more ★ increase ★ join	★ subtract ★ minus ★ less than ★ take away ★ how much more ★ remain ★ left ★ fewer ★ difference ★ decrease
Multiplication ✖ La Multiplicación	**Division ➗ La División**
★ multiply ★ factor ★ product ★ times ★ per ★ equal groups of ★ each ★ of ★ by ★ as much	★ divide ★ quotient ★ cut ★ distribute ★ equal parts ★ goes into ★ shared equally ★ split evenly ★ percent ★ out of

Instructional Tool for Goal 4: CUBES Strategy

As a Tier 3 language support for Student B, I found a strategy for attacking math word problems called CUBES. This is a concrete problem-solving tool that breaks down the step-by-step process of reading a word problem carefully for key information before trying to solve it. Each letter in CUBES stands for a step to take when reading a math word problem. I will print this visual out and give it to Student B to always have easy access to support his reading comprehension with complex word problems. By having a problem-solving strategy to identify the important information in a word problem, he will better understand what information he needs to use and apply in order to solve the problem. This is a skill that will increase the accuracy of his work and be useful to him in 7th and 8th grade as well. The goal is for Student B to engage in comprehensible input when he is reading word problems and use the CUBES strategy to identify key information in the word problem in order to solve. I also translated the verbs in Vietnamese in order to build connections between the student's home language and English.

 C	**Circle** key numbers and units bao quanh	
U	**Underline** the question gạch ở dưới	
B	**Box** math action words bỏ vào hộp	
E	**Evaluate** the steps you need to take định	
S	**Solve** and show your work giải phương trình	

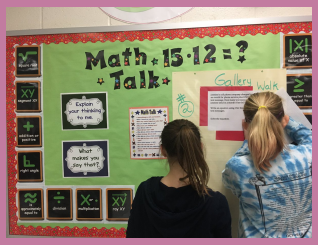
Reflection (Week 7)

The Language-Rich Classroom Environment project has taught me so much about how to use data and analysis to intentionally develop meaningful and effective classroom displays and instructional tools to support my students with the language demands of math based on where they currently are in their linguistic journeys. After this project, I understand at a much deeper level why bare walls and generic scaffolds do not provide multilingual learners with the specific language supports that they need in order to make gains in their language development and master the grade-level content. Additionally, I recognize that my classroom layout, culture, and procedures also have the power to play a tremendous role in advancing my students' language development. Below is my vision board for new ways that I would like to strategically create opportunities for interaction, a feeling of belonging and empowerment, and a sense of security for multilingual learners in my classroom.

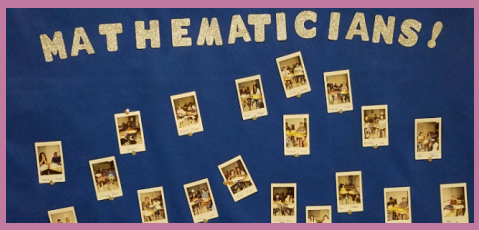
Vision Board for My Future Classroom

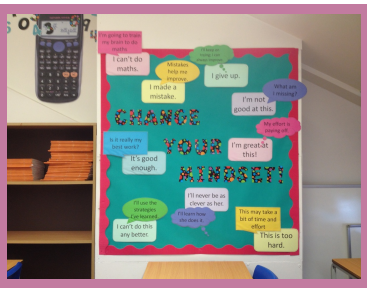
Classroom Layout



Classroom Culture





Classroom Procedures