RELATING LANGUAGE OBJECTIVES TO BLOOM'S TAXONOMY: HOW TO TALK TO YOUR MAINSTREAM COLLEAGUES ABOUT LANGUAGE OBJECTIVES

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ABSTRACT

In response to *No Child Left Behind* (2001) pressures on schools to show that ELLs are making academic progress, many school districts are embracing sheltered instruction. Among other best practices, sheltered instruction requires that mainstream instruction include language objectives that support the content curriculum. Increasingly, ESL teachers are put in the role of coaching their colleagues on how to write language objectives that are linked to content. This article shows ESL professionals how to use Bloom's taxonomy, familiar to most teachers, to help them open the door to collaborative discussion about academic language function and language objectives.

ANECDOTAL INTRODUCTION

Mariam Salehi has been an English as a second language (ESL) teacher for fifteen years. She has always appreciated her mainstream colleagues' concerns about the performance of the English language learners (ELLs) in their classes, and she has consulted with them on a regular basis. Although the requirement only came when her students were not meeting annual yearly progress standards, she was thrilled when her district started to require professional development in sheltered instruction for ELLs of all teachers.

The mainstream teachers in her building learned a lot about working with ELLs during the professional development sessions, but they continued to feel a real unease related to including language objectives in their instruction. Some had gotten the idea that language objectives simply meant making sure that students read, write, speak and listen. Others interpreted language objectives to mean teaching vocabulary, which they felt that they had already been doing for years anyway.

Through her own ESL teacher education program as well as years of experience, Mariam had a strong background in linguistics, English grammar and ESL teaching methodology. She wondered how she could help her hesitant colleagues with their attempts to create appropriate language objectives that would support the content objectives in the mainstream curriculum.

Most of her colleagues do not have much education in the areas of linguistics or applied linguistics. Most only have a minimal knowledge of a foreign language and have a rudimentary and sometimes flawed idea of how proficiency in a language develops. Mariam wonders how she can help her colleagues craft appropriate language objectives that support the academic language development that ELLs need to master academic content.

MAINSTREAM TEACHERS AND SHELTERED INSTRUCTION

The above scenario is taking place in schools across the United States. With the pressures that come in conjunction with the No Child Left Behind Act's (U.S. Department of Education, 2001) sanctions for a lack of adequate progress among ELLs, districts are hiring educational consultants to help all teachers learn better practices in working with language minority students (Mabbott, Kramer, &

Lundgren, 2009). Often referred to as SIOP (Echevarria, Vogt, & Short, 2008) training, the professional development attempts to impart best practices in working with ELLs. For the purposes of this paper, we will use the more generic, and appropriate term sheltered instruction, as SIOP, coined by Echevarria et al. (2008) refers to sheltered instruction observation protocol, a teaching protocol that is idiosyncratic to their approach and not inclusive of the work by others in the field (see, for example: Herrera & Murry, 2005; Hill & Flynn, 2006; Smiley & Salsberry, 2007).

Professional development in the area of sheltered instruction has undoubtedly been helpful in educating teachers about the needs of ELLs. However, our years of practice as teacher educators and our extensive observations in K-12 schools indicate that most teachers still struggle to meet the language development needs of ELLs. As Mariam Salehi in our introductory scenario realized, we are not likely to be able to give all teachers the background in linguistics and applied linguistics that they would ideally need to work with ELLs. Therefore we need to find other ways to make the principles of academic language development accessible to conscientious teachers.

As ESL professionals, it is our challenge to make a bridge between what competent, well-intentioned mainstream teachers already know to what they need to know about academic language. Our approach builds on what teachers know about content standards, higher order thinking skills (Bloom, 1956) and teaching vocabulary. Through a series of exercises with K-12 texts, we lead them to a point where they recognize that learning English requires more than memorizing words that are easily defined or illustrated. We help them to see the role of sentence and text structure in creating meaning, and how the familiar Bloom's taxonomy represents academic language function. It is our hope that other ESL professionals can build on these examples to help their mainstream colleagues write and teach appropriate language objectives for their content instruction.

EXERCISE 1: THE NATURE OF ACADEMIC LANGUAGE

The following passage is excerpted from a sample passage from the Minnesota Comprehensive Exam reading test, grade 4 (Minnesota Department of Education, n. d.).

> Bats
> Even though they fly, bats do not have feathers. Instead they have
> fur like many other mammals. Bats do not have actual wings, either….
> Most bats come out only at night, although some may fly at sunset.
>
> *What essential vocabulary words would you teach students to help*
> *them comprehend this passage?*

We have shown this passage to hundreds of teachers, and depending on the teacher's knowledge base, we get very different answers to the question: *What essential vocabulary words would you teach ELLs to help them comprehend this passage?*

Typical responses include: *feathers*, *mammals*, *wings, fly, actual* and *sunset*. Typical types of words represented include nouns (*feathers, mammals, wings, sunset*), verbs (*fly*) and adjectives (*actual*).

Teachers with a more sophisticated knowledge of language and how it functions identify *even though*, *instead*, and *although* as much more challenging than the nouns, verbs and adjectives identified by their more typical colleagues. However, after some guided thought, the typical teacher also begins to recognize that *even though*, *instead*, and *although* are much more diffi-

cult for students to understand than the word *mammal. Even though*, *instead*, and *although* are not easily defined, and they all indicate some kind of exception. In this passage, the words are used to differentiate bats from other creatures that fly. Through this discussion, teachers begin to understand that such expressions are not easily visualized, and that they are best taught through student interaction with multiple examples of their use. They begin to understand that *even though*, *instead*, and *although* are essential to comprehend the passage.

After engaging in this conversation, we introduce the metaphorical terms 'bricks and mortar' (Dutro & Moran, 2003) to our conversation about language. Bricks are the nouns, verbs, adverbs and adjectives that are relatively easy to explain to language learners. They convey most of the meeting of a text, we can usually show pictures or actions that illustrate them, and they are the most easily learned. However, a text cannot be comprehended without mastery of the mortar, the language that holds the brick together and conveys the function of the language and the relationship of the bricks to each other. To help teachers understand the bricks and mortar metaphor better, we do the following exercise.

EXERCISE 2: CONTENT AND FUNCTION WORDS

Content Words (Mortar)	Function (signal) Words (Bricks)

In this exercise we ask teachers to go back to Exercise 1, the passage about the bats, and then to place the discussed words in the proper column. *Feathers*, *mammals*, *wings, fly, actual* and *sunset* should all end up in the bricks column, and *even though*, *instead* and *although* should end up in the mortar column. The exercise can be repeated with other passages until teachers become comfortable with distinguishing the two.

EXERCISE 3: REMEMBERING BLOOM'S TAXONOMY

Learning is most easily accomplished if we can connect new ideas to ones that we already know well. Teacher education programs typically include discussion of Bloom's (1956) taxonomy of higher order thinking skills necessary to become an educated person, and it is safe to assume that just about every teacher is familiar with them. This familiarity makes Bloom's taxonomy a wonderful vehicle to get teachers to think more about the academic language needs of ELLs. In the exercise below, we ask teachers to match the thinking skills, which are listed in increasing order of difficulty, to the language functions typically needed to accomplish the skills.

Bloom's Taxonomy of Thinking Skills	Language Function
____ 1. Knowledge	A. *interpret, generalize*
____ 2. Comprehension	B. *compare, contrast, differentiate*
____ 3. Application	C. *synthesize information*
____ 4. Analysis	D. *evaluate, decide, predict*
____ 5. Synthesis	E. *define, list, label*
____ 6. Evaluation	F. *describe, report, paraphrase, explain*

The correct answers are indicated below.

> Bloom's Taxonomy Paired with Typical Language Functions
> 1. Knowledge – define, list, label
> 2. Comprehension – describe, report, paraphrase, explain
> 3. Application – interpret, generalize
> 4. Analysis – compare, contract, differentiate
> 5. Synthesis – synthesize information
> 6. Evaluation – evaluate, decide, predict

Going back to the sample reading about bats, we recall that it requires the reader to differentiate bats from other animals that fly. The text above reminds us that differentiating requires the thinking skill of analysis. And, we can also recall that the language used to convey this analysis were the words *even though*, *instead* and *although*.

EXERCISE 4: LANGUAGE OBJECTIVES

So far, we have tied the notion of the mortar of language to topics familiar to teachers, Bloom's taxonomy of higher order thinking skills and language function as described by words such as compare, contrast, and differentiate. But, we still need to help teachers formulate their language objectives. The following should help.

Content Objective	Bloom's Skill and Language Function	Mortar words	Bricks
How bats differ from other animals that fly.	Analysis- *compare contrast, differentiate*	*Even though, instead, although*	*feathers, mammals, wings, fly, actual, sunset*
What do you want the students to be able to say/write? *Even though they are mammals and don't have feathers, bats can fly.*			

If we were to write out the content and language objectives for this lesson, they could read as follows: Students will be able to analyze how bats differ from other animals that fly by using the structures *even though*, *instead* and *although*, and the words *feathers*, *mammals*, *wings, fly, actual, sunset.*

Once teachers understand that vocabulary and language structure are important to teach, they need help figuring out what vocabulary and which language structures to include. The possible choices can seem overwhelming. To help, we encourage teachers to think about what they expect their students to be able to say and write about a particular concept. If the teacher hopes that students will be able to say, *Even though they are mammals, bats can fly*, then they have know how to use the phrase *even though* as well as the word *mammal*. *Instead*, *actual* and *sunset* may not be so important for this lesson.

Mastering the thinking process required to craft appropriate language objectives to support content objectives takes practice. The appendix provides a list of content and corresponding language objectives for math, science and social studies at all levels of Bloom's taxonomy.

The exercises can be used to provide teachers with practice to help them identify the necessary language objectives for their lessons. Once teachers are comfortable with the exercises that we have provided, they should bring their own curriculum materials in and practice with those. It is important to point out to teachers that language objectives are unique to each teaching environment as they are contingent upon the knowledge students bring to the table both in terms of prior knowledge of the content and language proficiency. The appendix provides examples of how language is embedded into the content, but these are not grade specific suggestions. If we look at the first math example, money identification is often a primary grade standard. However, students with interrupted formal education (SIFE) may need these same basic bricks and mortar structures initially. Because SIFE students are usually older, they may move rapidly into more complex thinking. Language objectives would need to be adjusted so students could learn structures that reflect deeper comprehension and application of content concepts.

The appendix is not meant to read as an absolute statement regarding language objectives; rather it serves as a form of guided practice as ESL teachers engage in discussions about language and how it develops through content teaching. It is essential that mainstream colleagues identify the language objectives most appropriate for their particular content and grade level as well as the linguistic needs of their specific students. It is our experience that collaborative conversations between ESL professionals and their mainstream peers can result in a better understanding of the academic language and content demands on ELLs, and that such understanding promises to improve overall instruction for ELLs.

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APPENDIX
Identifying language structures in math at different levels in Bloom's taxonomy

Content Objective	Bloom's Skill and Language Function	Mortar words are <u>underlined.</u> What do you expect students to be able to say and write?	Bricks
Students will be able to talk about and write about the different units of money and how much they are worth.	Knowledge *define, list, label*	*A dime <u>is</u> 10 cent<u>s</u>.* *Two dime<u>s</u> <u>are</u> 20 cent<u>s</u>.*	dime, penny, nickel, quarter, dollar, cent
	Comprehension *describe, report, paraphrase, explain*	*A dime <u>is equal to</u> ten pennie<u>s</u>.* *A nickel <u>is equal to</u> five pennies.*	
	Application *interpret, generalize*	*Ten pennies and one dime <u>are the same amount of</u> money.* *Two nickels and one dime <u>are the same amount of</u> money.*	
Students will be able to differentiate geometric shapes	Analysis *compare, contrast, differentiate*	*A pentagon has five sides, <u>but</u> a triangle has three.* *A pentagon has five sides, <u>whereas</u> a triangle has three.*	pentagon, triangle
Students will understand and be able to apply the property of transitivity.	Synthesis *synthesize information*	*<u>If</u> Tomas is taller than Mohamed, and Mohamed is taller than Joey, <u>then</u> Tomas is taller than Joey.* *<u>If</u> a=b, and b=c, <u>then</u> a=c.*	transitivity
Students will be able to make mathematical prediction.	Evaluation *evaluate, decide, predict*	*<u>If</u> I combine rod A with rod B, they <u>will equal</u> rod C.* *<u>If</u> the addition of two odd numbers always results in an even number, then 27 plus 43 <u>will equal</u> an even number.*	odd number, even number

Identifying language structures in science at different levels in Bloom's taxonomy

Content Objective	Bloom's Skill and Language Function	Mortar words are <u>underlined.</u> What do you expect students to be able to say and write?	Bricks
Students will be to describe the appearance and behavior of bears.	Knowledge *define, list, label*	*<u>This is</u> a bear.* *<u>These are</u> bears.*	bear, claws, teeth
	Comprehension *describe, report, paraphrase, explain*	*Bears <u>have</u> sharp claws and teeth.* *A bear <u>has</u> sharp claws and teeth.*	
	Application *interpret, generalize*	*Bears' sharp teeth and claws <u>help them eat</u> meat.* *Bears' sharp teeth and claws <u>help them dig for</u> food in the ground.* *Bears' sharp teeth and claws <u>help them eat meat and dig for</u> food in the ground.*	
Students will be able to discuss how bears interact with each other, humans, and their habitat.	Analysis *compare, contrast, differentiate*	*<u>Although</u> all bears are similar, grizzlies are <u>more</u> aggressive <u>than</u> black bears.*	grizzlies, black bears, aggressive
	Synthesis *synthesize information*	*<u>Because</u> polar bears and grizzly bears have the same DNA, they can mate.* *Polar bears and grizzly bears can mate <u>because</u> they have the same DNA.*	DNA, polar bear
	Evaluation *evaluate, decide, predict*	*People and bears are threatened <u>when</u> their habitats overlap.* *<u>When</u> their habitats overlap, people and bears are threatened.*	habitat, overlap, threatened

Identifying language structures in social studies at different levels in Bloom's taxonomy

Content Objective	Bloom's Skill and Language Function	Mortar words are underlined. What do you expect students to be able to say and write?	Bricks
Students will be to identify, describe, and compare the continents.	Knowledge *define, list, label*	*The continents are North America, South America, Africa, Europe, Asia, Antarctica and Australia.*	*North America, South America, Africa, Europe, Asia, Antarctica, Australia*
	Comprehension *describe, report, paraphrase, explain*	*Most continents are made up of several different countries.*	
	Application *interpret, generalize*	*The smallest continent is Australia.*	
Students will be able to compare the size states and countries.	Analysis *compare, contrast, differentiate*	*Turkey is as big as Texas.*	Names of states and countries.
Students will be able to explain how government policies influenced settlement in the U.S.	Synthesis *synthesize information*	*The U.S. government had a policy of moving Native Americans from areas where European settlers wanted to live.*	policy, Native Americans, European settlers
Students will be able to evaluate the relative merits/ weaknesses of capitalism and communism.	Evaluation *evaluate, decide, predict*	*Capitalism is better than communism because it meets people's individual needs better.*	capitalism, communism, individual needs