

# A case study in teaching linguistics to middle school students with language-based learning differences

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## Abstract

I report on a one-hour linguistics outreach session with approximately 20 middle school students with language-based learning differences. The session included discussion about subfields of linguistics, hands-on analysis of Swahili verbal morphology, and summary discussion about the validity of all varieties of language. Overall, this experience was successful and demonstrates that middle school students can productively learn elementary linguistic analysis, including those who might benefit the most from exposure to linguistics.

## Background

A **language-based learning difference (LBLD)**; also called a *language-based learning disability or difficulty*, though *difference* is often used among educators) is a disorder that affects ordinary use of written and/or spoken language: mixing up the order of letters and numbers, in reading or in writing (dyslexia, dyscalculia, dysgraphia), misunderstanding certain kinds of linguistic structures (such as questions and imperatives), problems with reading or listening comprehension, difficulty in memorizing new vocabulary or sequences of numbers, disfluency in verbal expression, etc. [<http://www.asha.org/public/speech/disorders/LBLD.htm>]

Founded in 2006, **AIM Academy** in Conshohocken, Pennsylvania (USA), is a small private coeducational school serving over 300 students with LBLDs in grades 1–12. [<https://www.aimpa.org/>]

The approximately 20 middle school students in this session are part of a year-long linguistics course at AIM Academy, which focuses on lexical semantics, morphology, and etymology in English. My one-hour session occurred in December 2016, roughly in the midpoint of their year-long course, so they had had prior exposure to some concepts from linguistics, but not analysis of languages other than English.

## Materials

Three pages of prepared material, pictured to the right.

Printed hardcopies were handed out to the students, one page at a time, to retain focus on the task at hand.

Students were encouraged to write on the pages directly, making whatever notes they needed.

Students also wrote their names at the top of each page, so that their regular teachers could verify their participation in the activity.

**Swahili** is a language in the Bantu family, spoken in many countries throughout southeastern Africa. There are over 15 million native speakers and about 80–100 million others who use Swahili. The following Swahili words can be translated into English as full sentences:

Swahili	English
nitakupenda	I will like you
nitakulipa	I will pay you
nilikupenda	I did like you
nilimpenda	I did like him/her

The English sentences are made up of many words, which each have their own meaning. But the matching Swahili words are made up of smaller parts that have meaning. Linguists call these parts **morphemes**. So one language (like English) might say a particular meaning with words, while another (like Swahili) might say the same meaning with a single word made up of morphemes.

In fact, we can even see both types of ways to say one meaning in English. If we want to say that someone has better thinking skills than someone else, we might say that they are *more intelligent*, using two words. But we could also say that they are *smarter*, using one word made of two morphemes (*smart-er*). So languages can differ in whether a given meaning is said with separate words or with morphemes in a single word, and both methods might even be used within the same language!

**Exercise 1.** Identify the morphemes in the Swahili words above. How are they pronounced and what do they mean? What order are the morphemes in a Swahili word? Compare Swahili morpheme order to English word order. How are they the same? How do they differ?

**Exercise 2.** These examples reverse the actions described in the previous examples. How do we need to update our description of Swahili morphemes?

Swahili	English
utanipenda	you will like me
utanilipa	you will pay me
ulinipenda	you did like me
alinipenda	he/she did like me

**Exercise 3.** Translate the following Swahili words into their corresponding English sentences.

Swahili	English
nitampenda	
alikulipa	
utampenda	
ulimlipa	
atanipenda	

**Exercise 4.** Translate the following English sentences into their corresponding Swahili words.

Swahili	English
	he/she will like you
	you will pay him/her
	I will pay him/her
	he/she did pay me
	you did like him/her

**Exercise 5.** The Swahili morpheme *sumbua* means 'annoy'. Translate the following Swahili words and English sentences.

Swahili	English
nitakusumbua	
nilimsumbua	
	you will annoy me
	he/she did annoy you

**Exercise 6.** The Swahili morpheme *na* means an action is happening right now. Translate the following Swahili words and English sentences.

Swahili	English
ananisumbua	
unanilipa	
	I like you
	you are paying him/her

**Exercise 7.** Using new information in the first two rows of examples below, translate the remaining Swahili words and English sentences.

Swahili	English
tutakupenda	we will like you
alitulipa	he/she did pay us
tuikusumbua	
utatusumbua	
	we are annoying him/her
	you like us

**Exercise 8.** Create more Swahili words! Try using *lala* 'sleep' and *enda* 'go'. How do these verbs differ from the previous ones?

## Methods

**Opening 15 minutes:** Overview of subfields of linguistics, focusing on the relationship between syntax and morphology, noting how English can express the same meaning in two different ways (e.g. *smarter* versus *more intelligent*).

**Middle 30 minutes:** We went through each problem one at a time. Students worked on the problems at their desks without much direct guidance at first, and as they worked through different pieces, I wrote their solutions up on the board (right or wrong), and opened it up to class discussion to reach consensus. We had time to get through most of the first two pages of problems.

**Closing 15 minutes:** Wrap-up discussion of how languages can differ from each other in morphology and syntax, as well as the order of elements. Final discussion included the importance and validity of all forms of language, an important lesson for students with LBLDs in particular, because their language skills are often considered subpar and they can have a great deal of insecurity about their language.

## Outcomes

The **middle portion was very successful**. Students enjoyed puzzling through the analysis and debating with each other about the solution. They were vocal, active, and stayed on task. They were especially happy to learn that they were solving a problem that is typically given to university students.

A notable issue arose with a student with dyslexia, who was aided by reconfiguring the data with **graphical methods**, using different boxes for each of the types of morphemes. Abstracting away from the letters helped them grasp the underlying patterns.

One student came up after the session to ask for more data to work on at home! Fortunately, I had prepared a third page, which I gave to the teachers to use as they saw fit as follow-up. I recommend always **over-preparing** material for outreach sessions like this.

Students were also receptive to the opening and closing portions, and were particularly interested in **historical linguistics** and **constructed languages** (Klingon, Elvish, etc.), which suggests natural topics for future outreach sessions.