LING480-21s
Linguistic Structures
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This is not a syllabus, but it gives you a basic idea about what the course is about, what you can expect to learn by participating in various activities during the course of the semester.
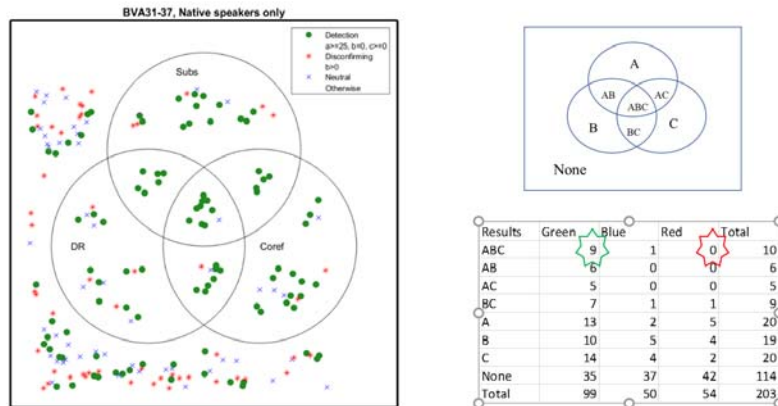

What this course is about

The course deals with the structures of the Japanese language from the perspective of language faculty science. Students will learn essential structural and lexical properties of Japanese, including:

(1)   a.   structural properties of the basic Subject Object Verb sentence pattern and the Object Subject sentence pattern
        b.   how structural relations affect interpretations pertaining to the two underlined expressions in each of (2) below, using English sentences for ease of illustration
        c.   the demonstrative system, crucial in the design of many of the experiments
        d.   how quantity is expressed, corresponding to *every boy*, *at least three boys*, etc.
        e.   how what corresponds to "pronouns" is expressed

(2)   a.   <u>every engineer</u> praised <u>his</u> robot
        b.   <u>every engineer</u> praised <u>three robots</u>
        c.   <u>that engineer</u> praised <u>his</u> robot

Language faculty science tries to find out about the language faculty, the ability that is hypothesized to underlie our ability to relate linguistic sounds/signs to meaning, by the basic scientific method, the same basic method followed in fields like physics. According to this method, we try to accumulate knowledge about our subject matter by deducing definite predictions from our hypotheses and obtaining and replicating experimental results precisely in line with such predictions, along with a familiar methodological desideratum, which we might call the "methodological minimalism," requiring that we postulate a minimum number of theoretical concepts and relations. Students will learn how part of the mind can be studied in *essentially* the same way as in physics. The relevant illustration will be based on a set of experiments (108 experiments) conducted on native speakers of Japanese (about 200) a few years ago, and the properties of Japanese mentioned in (1) are actual sentences included in those experiments.

Students will also learn how the experimental results are analyzed by using Matlab and Excel files. They will learn how to change various "parameters" in the Matlab program to check experimental results in various ways, generating a Venn-diagram chart and accompanying charts as in (3).

(3)

BVA31-37, Native speakers only

Results	Green	Blue	Red	Total
ABC	9	1	0	10
AB	6	0	0	6
AC	5	0	0	5
BC	7	1	1	9
A	13	2	5	20
B	10	5	4	19
C	14	4	2	20
None	35	37	42	114
Total	99	50	54	203

They will learn that no matter how differently we set the numerous parameters in analyzing the result, we end up have the same result precisely in line with our definite prediction, as long as we keep one fundamental setting, in line with the basic scientific method.

Students will learn the hypotheses behind these experiments. They will also learn how the formulation of those hypotheses and the deduction of the definite predictions are in accordance with the basic scientific method. In other words, they will learn about the basic scientific method. In relation to this, they will watch a few videos of Richard Feynman and learn about the detection of gravitational waves, in addition to reading some of what Einstein has had to say about science.

Because replication is key to science, students will also learn the nature of replication in language faculty science. More specifically, they will learn what the result of the 108 experiments alluded to above is meant to be a replication of and how we can, and in fact have been able to, replicate the result in experiments dealing with English.

What will be required of students

Students must be interested in learning about the basic scientific method and how it can be applied to the study of part of the mind. The attitude of critical thinking is a requirement.

Apart from attending the lectures and participating in class discussion, students will be required to do (4).

(4) a. Do on-line assignments which are meant to make sure that the students are following the lectures. Because of the purpose of the assignments, students will be allowed to submit their answers more than once.

b. Learn how to set various parameters in the Matlab program so as to be able to analyze the experimental results on their own. The results of the 108 experiments will be provided in Excel files.

If you have questions

If you have questions about this course, please email me at hoji@usc.edu.

Date/time of the course

Currently, the course is scheduled at 3:00-5:20pm on Thursday. Due to scheduling conflicts for some students, it will be moved to 2:00-4:20pm on Wednesday.