Module 8 - Assignment

Start Assignment

- Due Oct 20 by 11:59pm
- Points 60
- Submitting a text entry box or a file upload
- Attempts 0
- Allowed Attempts 1

This assignment includes short answer and mathematical calculations. Show all work for this assignment. No points are awarded for the correct answers, just the work.

TASK 1: Simple Annotation Experiment

Construct a simple ontology with 10 or more items. Use your ontology to annotate a 2+ page document. Without referring to your previous effort, repeat your annotation at least one day later. Calculate your within-rater reliability using a method of your choice.

TASK 2: Inter-annotator agreement exercises.

1. Consider the following confusion matrix between two annotators:

	Yes	No	Don't Know
Yes	5	7	4
No	3	10	2
Don't Know	5	2	8

A. Calculate IAA using percent agreement
B. Calculate IAA using Bennett et al's *S*
C. Calculate IAA using Scott's pi
D. Calculate IAA using Cohen's kappa (yes and no only – no don't knows)

2. Consider the following confusion matrix between two annotators:

	Yes	No	Don't Know
Yes	12	3	1
No	3	10	4
Don't Know	2	5	11

A. Calculate IAA using percent agreement
B. Calculate IAA using Bennett et al's *S*
C. Calculate IAA using Scott's pi
D. Calculate IAA using Cohen's kappa (yes and no only – no don't knows)

3. Repeat number 2 above without including Don't Know responses.

4. Qualitatively describe how percent agreement, Bennett et al's *S,* Scott's pi, and Cohen's kappa differ in their results based on questions 1-3.

5. Consider the following matrix, where rows represent items to classify and columns represent categories that the items can be classified. The elements of the matrix represent the number of the 8 annotators that were labeling items. Calculate IAA using Fleiss kappa.

n_{ij}	**1**	**2**	**3**	**4**
1	0	6	2	0
2	1	2	4	1
3	2	0	2	4
4	0	1	6	1
5	0	1	5	2

6	1	6	1	0
7	1	6	0	1

6. Consider the following data, where rows represent different annotators and the columns represent different items to be annotated. The elements of the matrix represent a label (1,2,3) assigned to the item by the annotator. An empty cell indicates that the annotator did not annotated that item.

Rater	1	2	3	4	5	6	7	8	9
A	1		3	2	1	2	1	3	2
B	1	1	1	2			1	3	1
C	1	2		2	3			3	2
D	2	1	3	2	3	2	1	3	

A. Calculate Krippendorff’s alpha for the data
B. Calculate recognition error as described in the module readings.
C. Calculate the K-vitality of each annotator. Which is the best annotator? Which is the worst annotator?