Coding Rubric
for interview data in the paper
"How does the type of guidance affect student use of an interactive simulation?"
(Paulson, Perkins, and Adams, 2009)

for every verbalization made...
● is it a question posed to self or a sort of rhetorical question?
  ○ examples: 'why doesn't this change?'; 'I wonder what why that happened'; 'so this does that?'
    (questioning inflection)
  ○ if yes: mark 1 under 'posing q to self'
● is it a question posed to the interviewer?
  ○ examples: 'is that good enough for that?'; 'should I continue?'
  ○ if yes: mark 1 under 'q to interviewer'
● is it an expression of surprise?
  ○ if yes: mark 1 under 'surprise'
● is it an answer to a question posed (by self, guidance or interviewer)?
  ○ if yes: mark 1 under 'answer'

to identify a sim transition...
● a sim transition occurs when the student starts interacting with a different sim element
● it is:
  ○ when student begins consideration of a new, mostly unrelated idea (usually after an
    issue/question has been resolved or abandoned)
  ○ example: the student checks to see if the number of pickup coil loops affects the bulb
    brightness, finds that it does, and then moves on to see if the loop area has any effect.
● it is not:
  ○ when multiple sim elements are being used together to answer a single question
  ○ example: a student is moving around both the bar magnet and compass to see the relation
    between them

for every sim transition:
● did it occur (apparently) spontaneously, at the student's leisure?
  ○ if yes: mark 1 under 'no prompt'
● did it occur directly after answering a question in the written guidance?
  ○ if yes: mark 1 under 'answer to posed q'

to identify when student is "confused"
● for these purposes, "confused" means that the student does not immediately understand what
  s/he is seeing
● it may (or may not) be accompanied by a verbalization such as "huh?", or a real question
● it is often accompanied by prolonged inaction while staring at a single aspect of the sim (such
  as the oscilloscope display of the AC current source)

for every incidence of "confusion"
● is the confusion addressed by continued investigation of the same sim element?
  ○ if yes: mark 1 under 'same'
● is the confusion addressed by investigation of a different sim element?
  ○ if yes: mark 1 under 'new but related'
● does the student move on without resolving the confusion?
  ○ if yes: mark 1 under 'give up'
● does the student refer back to the written guidance?
  ○ if yes: mark 1 under 'guidance'