Course  
  
NUR 600 / MAt 582 combination Biostats course for Nursing and Math depts  
  
Level  
  
Graduate students at Lehman college  
  
Learning Goals  
  
1. Knowledge & Conceptual Understanding   
  
I would like to develop several examples to introduce my students into QR and what comes up next in our course. These examples will be relatively simple and unrelated to biostatistics but will show students what kind of approach they should take when we start doing statistics. Students will understand the process of learning different types of reading data, featuring graphics comparing quantitative to reasoning component.  They will be provided with a link to find all data and will need to count all games played at the last year’s NCAA women tournament, Then they will be asked to use quantitative methods to classify all games based on who won the game.

To test my students on this goal I will use the following question:

What is the pattern that you obtain when you classify games by the winner?

Rubric: Total 2 points.

 2 points if geometric series is stated.

1 point if the sequence including 1,2,4,8,16 and 32 is stated.

0 points if neither of the two quantitative descriptions are stated

2. Thinking skills   
  
My second goal is to find more quantitative approach that will be related to methods used in Nursing applications later in the semester. I will explain to my students how to use a reasoning part of QR and look for other ways to classify the quantity of games played.  Classification based on losing teams will provide a much quicker counting.  I will tell them that everyone can reason but not everyone can count.  As someone smart once said there are three kinds of people in this world.  Those who can count and those who can’t count.

To test my students on this goal I will use the following questions.  This questionnaire will be done after the first set of questionnaires are collected,

What is the definition of the geometric series and how is that series related with the formula for the tournament.  Provide a short proof of the formula for the geometric series.

Rubric:  Total 4 points.

1 point for stating that every next element of the geometric series is obtained by adding a previous element to itself or an equivalent statement.

3 points for stating a proof for the sum of geometric series.

1 point for adding 1 to the geometric series when trying to prove the geometric formula.

1 point for stating the formula for the sum of geometric series.

Observe that the first 1 point together with the 3 point part completes all 4 points for this rubric. The last two 1 point credits are part of the 3 point description.  
  
3. Attitudes/ values/ mental habits  
  
Students will compare the three methods we used in evaluation of quantity of games played and they will be required to graph the three points representing three different methods used, on the QR map.  There will be a discussion forum on BB where they will compare the three methods.  Hope is that most students will understand that R>Q in QR.

To test my students on this goal I will use the following question:

In this tournament there are 64 teams competing.  It seems that the R method is better than the Q method in our evaluation. But in order applications, including Nursing applications later in the semester, there will be more than 64 and also less than 64 elements in our data set, 64 being called data size.  Is the R approach much more beneficial than the Q approach when the data size is smaller or when the data size is larger?

Rubric:  Total 3 points

1 points for stating that the R approach gets better and better when the data size gets larger and larger.

2 points for stating that the counting or the calculation gets more complex or longer when data size gets larger