**Results in NUR 600 / MAT 582 **

*Posted by   Nikola Lakic  at Wednesday, May 30, 2018 1:56:25 PM*

Course

NUR 600 / MAT 582 combination Biostats course for Nursing and Math depts

Level

Graduate students at Lehman college

Results grouped by Learning Goals

1. Knowledge & Conceptual Understanding

Students were 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 were asked to use quantitative methods to classify all games based on who won the game.

To test my students on this goal I used 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

RESULTS:

|  |  |
| --- | --- |
| student 1 | 0 |
| student 2 | 0 |
| student 3 | 1 |
| student 4 | 0 |
| student 5 | 1 |

2. Thinking skills

My second goal was to find more quantitative approach that will be related to methods used in Nursing applications later in the semester. I explained 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 toldl 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 used the following questions.

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.

RESULTS:

|  |  |
| --- | --- |
| student 1 | 0 |
| student 2 | 3 |
| student 3 | 0 |
| student 4 | 1 |
| student 5 | 0 |

3. Attitudes/ values/ mental habits

Students compared the three methods we used in evaluation of quantity of games played and they were required to graph the three points representing three different methods used, on the QR map.

To test my students on this goal I used 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

RESULTS:

|  |  |
| --- | --- |
| student 1 | 0 |
| student 2 | 1 |
| student 3 | 0 |
| student 4 | 1 |
| student 5 | 0 |

I introduced my beginning graduate level students in Statistics for Nursing to several examples about Quantitative Reasoning in Statistics.  The goal was to prepare them for what comes up next in our course. These examples were relatively simple and unrelated to biostatistics but showed students what kind of approach they should take when we start doing more advanced statistics. Using these examples, students explored the process of learning many ways to read data, understanding the features of the graphics and comparing quantitative to reasoning component.  The emphasis was on complementary probability as a cool tool when finding a short cut in calculating quantitative statistics.  My estimated level of readiness for advanced statistics was the grade of 2.7 out of maximum 9 points.  My students got an average 1.6 which showed that more probability concepts should be introduced to students before starting the more advanced statistics topics.

Our example consisted of counting how many games will be played at the women’s NCAA tournament.  The reasoning component was to find the complement of winning teams instead of counting the winners by rounds.