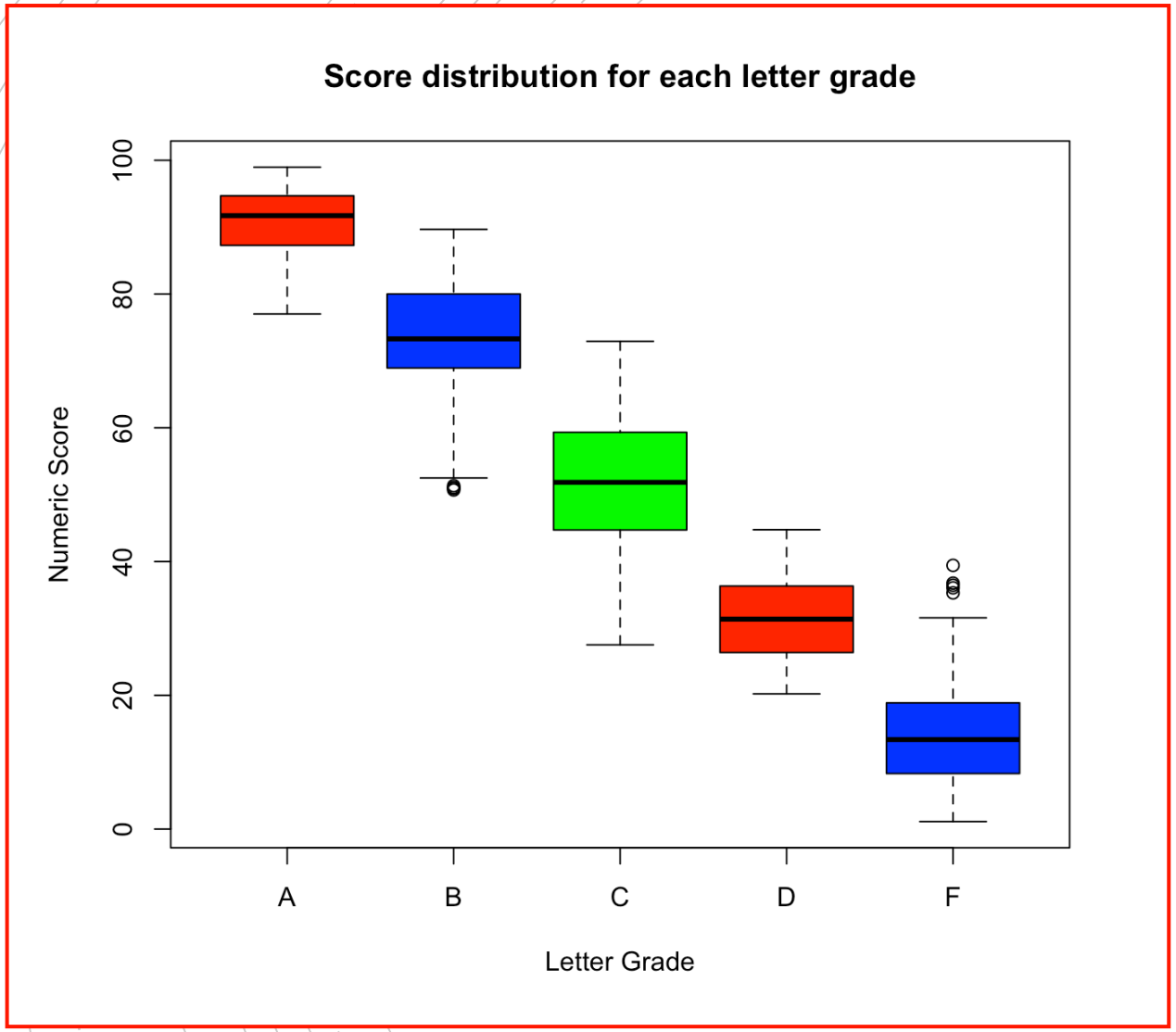
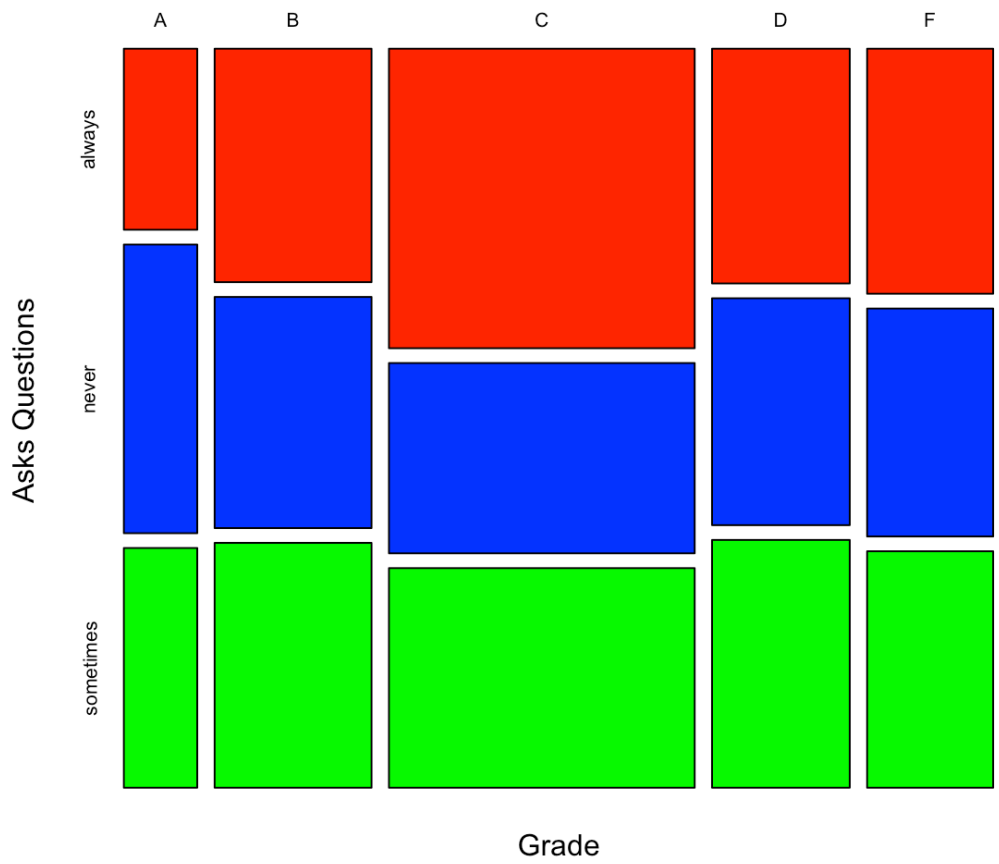
An Analysis of Professor Moody's Class

By Fauzan Amjad



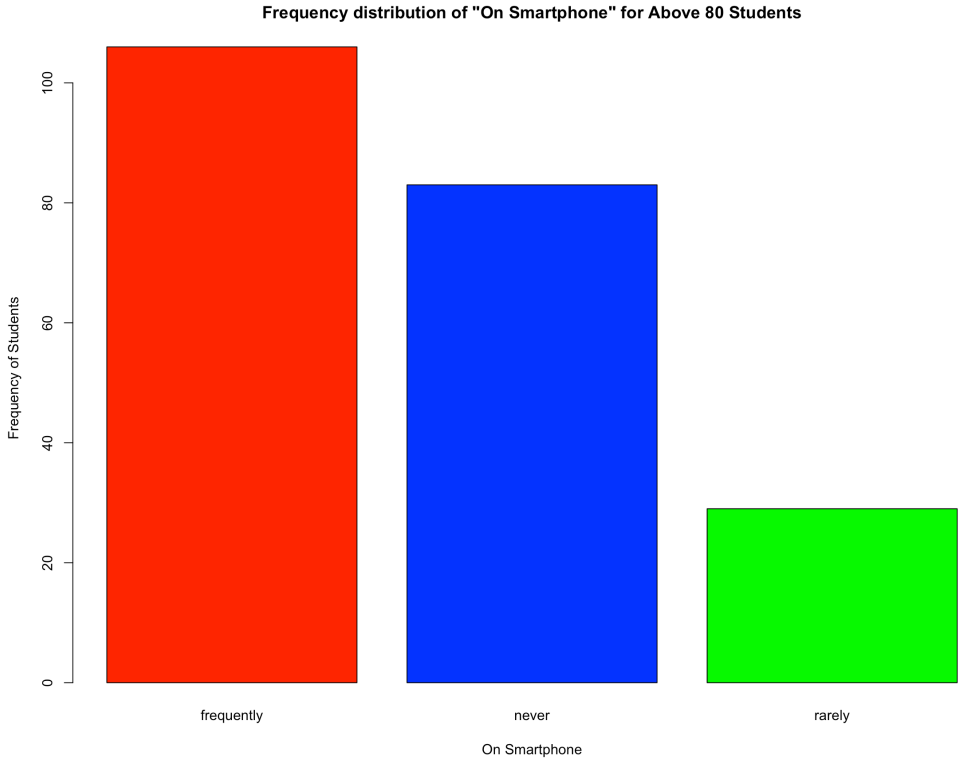
Plot 1: Score distribution for each letter grade

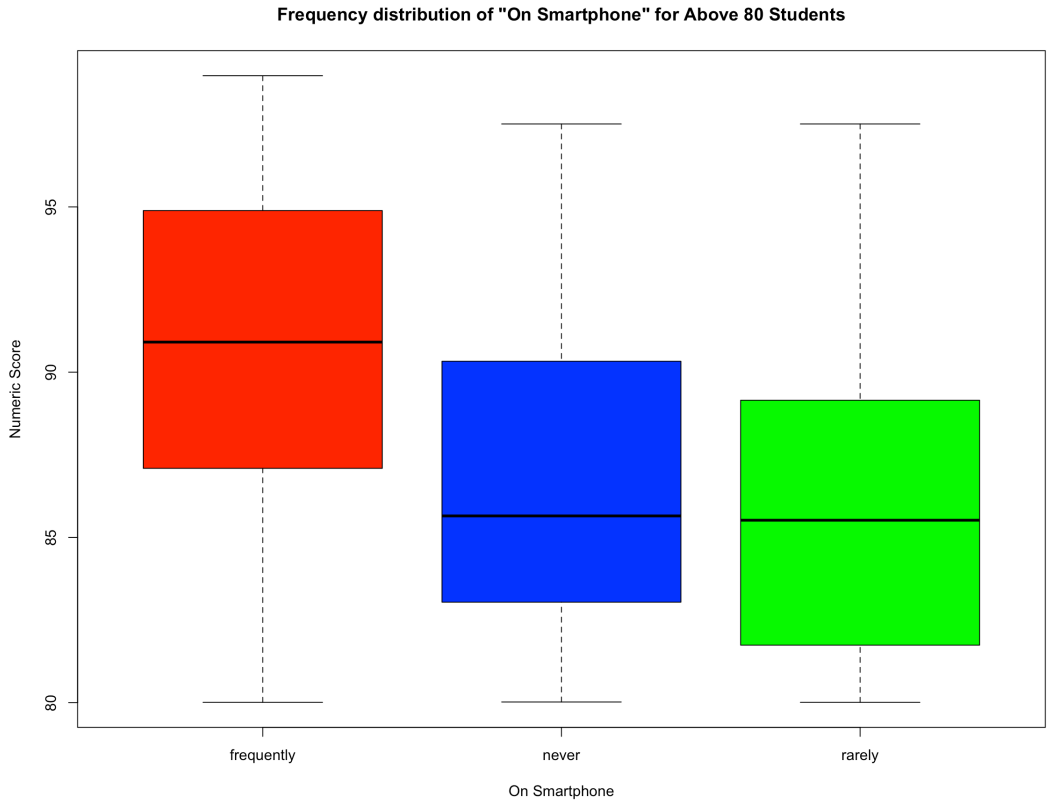
- For each letter grade, the score distribution often overlaps with the score distribution of another letter grade as shown by the boxplot.
- This overlap implies that Professor Moody's students are not assigned letter grades solely because they meet a certain numeric cut off but are assessed on other potential factors.
  - An example of this phenomenon is seen with some students earning a C for a 30% while others receive an F for the same numeric grade.
- Despite overlaps, the median increases with each respective increase in letter grade



Plot 2: Letter grade frequency distribution depending on values of the attribute "Ask questions"

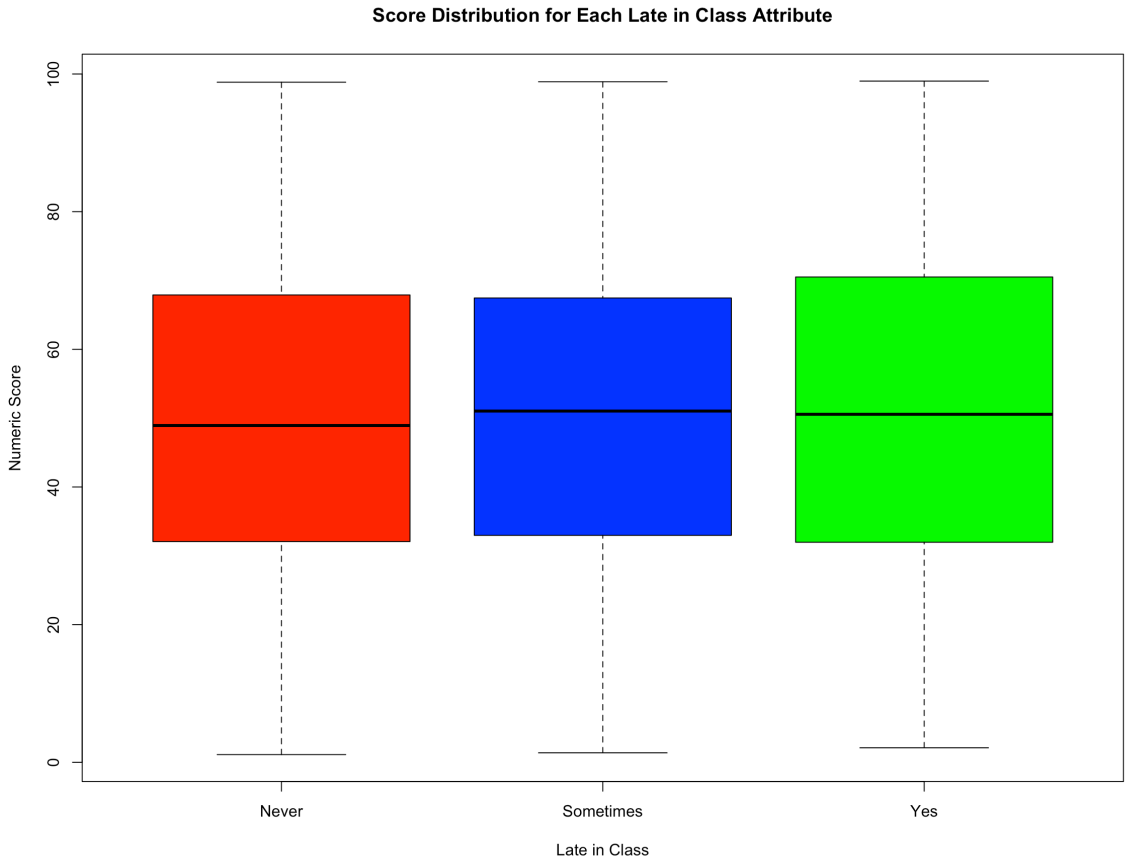
- The most significant distribution is seen with C students asking questions always.
- The people with higher letter grades (with respect to C) in Professor Moody's class tend to ask questions never, although sometimes is statistically significant.
- The people with lower letter grades (with respect to C) in Professor Moody's class will likely ask questions sometimes, although the distribution for ASK_QUESTIONS is rather similar.
- All letter grades have roughly the same distribution of people sometimes asking a question.





Plot 3: Frequency distribution of attribute "On Smartphone" for students who scored more than 80 points

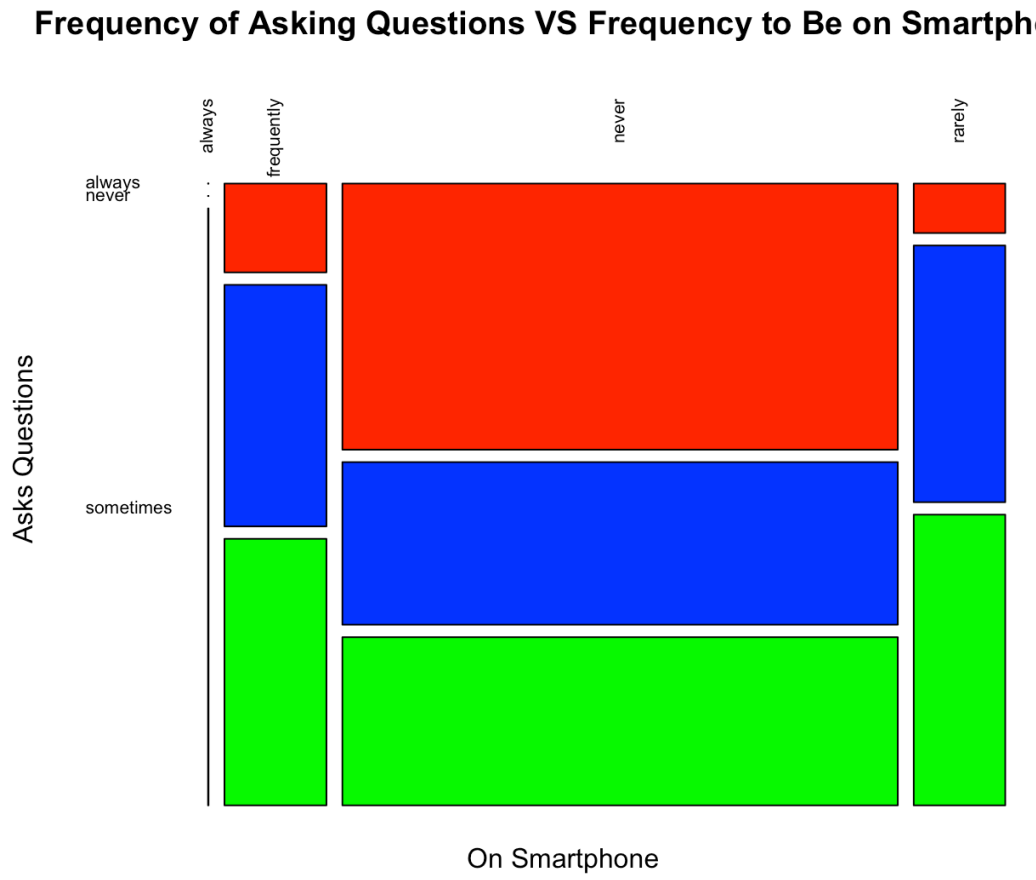
- Most students who had a numeric grade greater than 80 used their phone frequently, while “never” was the second most popular for those respective students.
- The low and high numeric grades were roughly the same for each “On Smartphone” distribution; however, ”frequently on smartphone” had a significantly higher numeric score median than “never on smartphone” or “rarely on smartphone”.



Late in Class	Never	Sometimes	Yes
Mean	49.55175	50.60166	50.97634

Plot 4: Average score for each value of attribute Late_in_class

- As shown by the boxplot and the table from tapply(), the mean of the the numeric grade of each late in class attribute is roughly around the same number.
- People that were late in class had the highest average numeric score while people that were never late to class had the lowest average numeric score.
  - It's important to not make conclusions solely on these statistics and as we saw with the first plot, the numeric grade is not the sole indication of letter grade.



Plot 5: Frequency of Asking Questions VS Frequency to Be on Smartphone

- As shown by the mosaic plot, the most significant distribution was of people always asking question while simultaneously never being on their smartphone.
- We can also interpret that people who are frequently on their smartphone will likely never or sometimes ask questions.
- Interestingly, people who are rarely on their smartphone will generally never ask questions or sometimes ask questions.
- There's only one person that is always on their smartphone