Introductory Statistics Homework Short Report for Topic of AB

| Mean | Std.dev | Min | Q1 | Median | Q ₃ | Max |
|-------|---------|------|-------|--------|----------------|-------|
| 6.24 | 2.38 | 0.00 | 5.00 | 6.00 | 8.00 | 12.00 |
| (25%) | (9.5%) | (o%) | (20%) | (24%) | (32%) | (48%) |

Table 1: Summary statistics of the scores

Each of the 50 students were given 25 questions from a bank of 89 questions. Figure 1 and Table 1 give the overall summary of student performance. Table 2 lists the 50 students who scored below 80 percent on the assignment. Table 3 and Figure 2 provide summary statistics of the scores per question set and learning outcome.

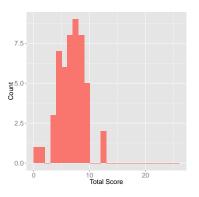


Figure 1: Histogram of scores. Blue data represent scores less than 80 percent.

| | % Correct | | % Correct | | % Correct | | % Correct |
|---------------|-----------|---------------|-----------|---------------|-----------|---------------|-----------|
| w.introstat40 | 48.00 | w.introStat59 | 32.00 | w.introstat43 | 24.00 | w.introstat23 | 16.00 |
| w.introStat50 | 48.00 | w.introstat69 | 32.00 | w.introStat51 | 24.00 | w.introstat29 | 16.00 |
| w.introstat26 | 36.00 | w.introstat31 | 28.00 | w.introStat53 | 24.00 | w.introstat36 | 16.00 |
| w.introstat39 | 36.00 | w.introstat35 | 28.00 | w.introstat66 | 24.00 | w.introstat46 | 16.00 |
| w.introstat42 | 36.00 | w.introstat44 | 28.00 | w.introstat67 | 24.00 | w.introStat56 | 16.00 |
| w.introStat52 | 36.00 | w.introstat48 | 28.00 | w.introstat70 | 24.00 | w.introstat68 | 16.00 |
| w.introstat65 | 36.00 | w.introStat54 | 28.00 | w.introstat21 | 20.00 | w.introstat24 | 12.00 |
| w.introstat33 | 32.00 | w.introStat58 | 28.00 | w.introstat28 | 20.00 | w.introstat27 | 12.00 |
| w.introstat34 | 32.00 | w.introstat61 | 28.00 | w.introstat38 | 20.00 | w.introstat30 | 12.00 |
| w.introstat37 | 32.00 | w.introstat62 | 28.00 | w.introstat47 | 20.00 | w.introstat64 | 4.00 |
| w.introstat45 | 32.00 | w.introstat63 | 28.00 | w.introStat57 | 20.00 | w.introstat25 | 0.00 |
| w.introstat49 | 32.00 | w.introstat32 | 24.00 | w.introstat6o | 20.00 | | |
| w.introStat55 | 32.00 | w.introstat41 | 24.00 | w.introstat22 | 16.00 | | |

Table 2: The 50 students whose percentages are less than 80%.

Topic of Learning Outcomes:

- A. Use standardizing to determine how many standard deviations an observation is away from the mean value.
- B. Use z-scores to compare observations for different quantitative variables.
- C. Explain how standardizing affects the shape, center, and variability of the distribution of a quantitative variable.
- D. Determine which quantitative variables could be modeled using the normal distribution by interpreting graphical representations of the variable.
- E. Apply the 68-95-99.

- F. Find percentile or area values for any given observation from a normal distribution.
- G. Find the value of an observation when given a percentile or area value from the normal distribution.

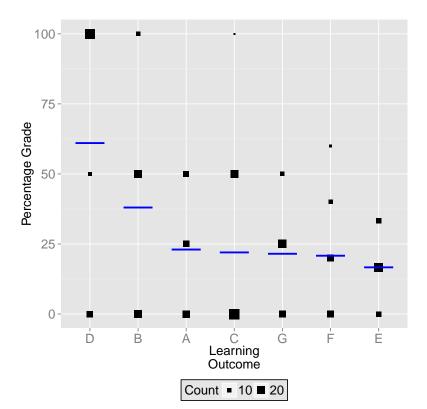


Figure 2: Fluctuation diagram of percentage correct by learning outcome. Mean scores are drawn as blue bars

| LO | Qset | # | Mean | Std.dev | Min | Median | Max |
|----|------|---|-------|---------|------|--------|--------|
| D | I | 2 | 64 | 48.49 | 0.00 | 100.00 | 100.00 |
| D | J | 4 | 58 | 49.86 | 0.00 | 100.00 | 100.00 |
| A | В | 4 | 48 | 50.47 | 0.00 | 0.00 | 100.00 |
| A | A | 4 | 44 | 50.14 | 0.00 | 0.00 | 100.00 |
| В | E | 1 | 40 | 49.49 | 0.00 | 0.00 | 100.00 |
| В | F | 1 | 36 | 48.49 | 0.00 | 0.00 | 100.00 |
| F | M | 5 | 36 | 48.49 | 0.00 | 0.00 | 100.00 |
| F | Q | 5 | 30 | 46.29 | 0.00 | 0.00 | 100.00 |
| G | S | 5 | 26 | 44.31 | 0.00 | 0.00 | 100.00 |
| G | U | 5 | 26 | 44.31 | 0.00 | 0.00 | 100.00 |
| C | Н | 1 | 24 | 43.14 | 0.00 | 0.00 | 100.00 |
| E | L | 9 | 23.33 | 25.42 | 0.00 | 33.33 | 66.67 |
| C | G | 1 | 20 | 40.41 | 0.00 | 0.00 | 100.00 |
| F | N | 5 | 18 | 38.81 | 0.00 | 0.00 | 100.00 |
| G | R | 5 | 18 | 38.81 | 0.00 | 0.00 | 100.00 |

| G | T | 5 | 16 | 37.03 | 0.00 | 0.00 | 100.00 |
|---|---|---|----|-------|------|------|--------|
| F | Ο | 5 | 14 | 35.05 | 0.00 | 0.00 | 100.00 |
| E | K | 9 | 10 | 15.43 | 0.00 | 0.00 | 33.33 |
| F | P | 5 | 6 | 23.99 | 0.00 | 0.00 | 100.00 |
| A | C | 4 | O | 0.00 | 0.00 | 0.00 | 0.00 |
| A | D | 4 | O | 0.00 | 0.00 | 0.00 | 0.00 |

Table 3: Summary statistics of the question sets. Rows are sorted by mean scores, which are marked red if less than 80 percent.