|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | First week |  |  | Last week |  |  |  |
|  | Freshmen | Seniors |  |  | Freshmen | Seniors |  |
| Low Anx | 53 | 91 |  | Low Anx | 85 | 90 |  |
| Med Anx | 51 | 83 |  | Med Anx | 80 | 85 |  |
| High Anx | 50 | 75 |  | High Anx | 75 | 80 |  |

In this study, we test Freshmen and Seniors on a vocabulary test (score out of 100). In addition, we induce an anxiety state right before the test (high, medium, or low) anxiety. We do this the first week of the semester and the last week of the semester. Assume the participants are different the first week and the last week.

What is the shorthand notation for this design? 2 x 3 x 2 (or 2 x 2 x 3, or 3 x 2 x 2, all are correct)

What are the IVs and levels? Year (freshmen, senior), anxiety (low, medium, high), and week (first, last)

What is the DV? Score on the vocabulary test

What kind of factorial design is it? Since I said the participants are different, this would be an Independent groups factorial.

Graph these results.

Put Test score on the y-axis. Maybe do 10 point increments from 50 to 100. Put anxiety level on the x-axis and do 2 lines for Freshman (open circle, dashed line) and Senior (closed circle and solid line).

Are there likely any main effects?

Yes, week and year would likely be significant. Possibly for anxiety, but this would depend on the variability.

Are there likely any interactions?

Yes, probably every combination would be significant, although year x anxiety and week x anxiety would depend on the variability.

If you were describing the results of this study, how would you describe them? Freshmen and Seniors are very different the first week, with Seniors scoring much better than the freshmen. But by the last week, freshmen scores are much closer to the seniors, though still slightly worse. It appears that anxiety only affects the scores slightly, with more anxiety resulting in slightly lower scores.