

## Chapter 10 FRAPPY!

### Student Sample Commentary

#### Sample #1

In Section 1, the response correctly identifies the procedure as the “Two-sample t interval,” notes that random assignment was used, and shows that both sample sizes are greater than 30. However, the response also includes an incorrect statement about the shape of the population. Large sample sizes only affect the shape of the sampling distribution of the sample mean, not the shape of the population distribution. Because only 2 of the 3 components were satisfied, Section 1 was scored partially correct. In Section 2, the response gives the correct interval with no incorrect work. Section 2 was scored essentially correct. In Section 3, the response refers to the 95% confidence level, describes a difference in means in context (“true difference in mean number of words written...”) and the interpretation is not about the groups of 46 and 54 (“for students like these who are asked...”). Because the response satisfied all three components, Section 3 was scored essentially correct. In Section 4, the response indicates that 0 is in the interval, satisfying component 1. The response also states that there isn’t convincing evidence of a difference in means (“No”), satisfying component 2. However, the response is not in context, so component 3 is not satisfied. Because the response only satisfied 2 of the 3 components, Section 4 was scored partially correct. Because 2 sections were scored essentially correct and 2 sections were scored partially correct, the response earned a score of 3.

#### Sample #2

In Section 1, the response correctly identifies the procedure as the “TwoSampTInt.” However, the response doesn’t note that random assignment was used (saying random ✓ doesn’t distinguish random sampling from random assignment) nor address how the normality condition is satisfied. Components 2 and 3 are not satisfied. Because the response only satisfied 1 component, Section 1 was scored incorrect. In Section 2, the response gives the correct interval with no incorrect work. Section 2 was scored essentially correct. In Section 3, the response refers to the 95% confidence level, satisfying component 1. However, the response is not about a difference in *mean* number of words, so component 2 is not satisfied. Finally, the interpretation is not about the groups of 46 and 54 (“for students like these”), so component 3 is satisfied. Because the response satisfied 2 of the 3 components, Section 3 was scored partially correct. In Section 4, the response indicates that 0 is in the interval, satisfying component 1. However, the response indicates that there is convincing evidence that the paper size doesn’t affect the mean number of words (equivalent to accepting the null hypothesis), so component 2 is not satisfied. The response is in context, satisfying component 3. Because the response only satisfied 2 of the 3 components, Section 4 was scored partially correct. Because 1 part was scored essentially correct and 2 parts were scored partially correct, the response earned a score of 2.