

## **Chapter 8 FRAPPY!**

### **Student Sample Commentary**

#### **Sample #1**

In part (a), the response mentioned repeated sampling and did so in context. However, it isn't clear from the response that approximately 95% of the resulting intervals would capture the true proportion who would quit. Part (a) was scored partially correct (P). In part (b), the response included a correct interpretation of the confidence interval, with reference to 95% confidence, the population proportion (*actual* proportion of *all* members), and in context. Part (b) was scored essentially correct (E). In part (c), the response correctly indicated that the manager should not be confident because there are values above 0.20 in the confidence interval. Part (c) was scored essentially correct (E). In part (d), the response indicated that the condition is about normality, but wasn't specific about which distribution needs to be approximately normal. However, the response earned credit for the second component by connecting the normality to the calculation of the  $z$  critical value in the interval. Part (d) was scored partially correct (P). With two parts essentially correct and two parts partially correct, the entire response was judged as substantial and earned a score of 3.

#### **Sample #2**

In part (a), the first sentence of the response didn't address the meaning of 95% confidence, only stating that "we want to be 95% confident." Furthermore, the second sentence of response is an incorrect interpretation of the confidence level. Part (a) was scored incorrect (I). In part (b), the response included a nearly correct interpretation of the confidence interval, with reference to 95% confidence and in context. However, the population parameter in the response was incorrect ("true mean proportion" rather than "true proportion"). Part (b) was scored partially correct (P). In part (c), the response correctly indicated that 0.20 is in the interval, however, the conclusion provided ("Yes") is incorrect. Part (c) was scored partially correct (P). In part (d), the response indicated that the condition is about normality, but wasn't specific about which distribution needs to be approximately normal. Also, there was no specific connection between the normality of the distribution and the calculation of the  $z$  critical value. Part (d) was scored incorrect (I). With two parts partially correct, the entire response was judged as minimal and earned a score of 1.