



## “FRAPPY” {Free Response AP Problem...Yay!}

The following problem is taken from an actual Advanced Placement Statistics Examination. Your task is to generate a complete, concise statistical response in 15 minutes. You will be graded based on the AP rubric and will earn a score of 0-4. After grading, keep this problem in your binder for your AP Exam preparation.

A local school board plans to conduct a survey of parents' opinions about year-round schooling in elementary schools. The school board obtains a list of all families in the district with at least one child in an elementary school and sends the survey to a random sample of 500 of the families. The survey question is provided below.

*A proposal has been submitted that would require students in elementary schools to attend school on a year-round basis. Do you support this proposal? (Yes or No)*

The school board received responses from 98 of the families, with 76 of the responses indicating support for year-round schools. Based on this outcome, the local school boards concludes that most of the families with at least one child in elementary school prefer year-round schooling.

### **Scoring:**

(a) What is a possible consequence of nonresponse bias for interpreting the results of this survey?

**E P I**

(b) Someone advised the local school board to take an additional random sample of 500 families and to use the combined results to make their decision. Would this be a suitable solution to the issue raised in part (a)? Explain.

**E P I**

(c) Suggest a different follow-up step from the one suggested in part (b) that the local school board could take to address the issue raised in part (a).

**E P I**

**Total: \_\_/4**