**Analysis Plan**

**Sampling Method**

This survey project employs a census, surveying all members of the XYZ Program for 2018. This means that statistical hypothesis testing will not be needed, as sampling error is not an issue. Statistical methods will be useful in addressing major research question – without concern for statistical significance.

**Descriptive Statistics**

The appendix will include a full reporting of frequencies to each question, modeling the format of the survey itself.

For all open-ended questions, responses also will be reported verbatim in the appendix.

Continuous responses for age and related questions will be summarized with a mean, SD, minimum, and maximum.

We may report pie graphs illustrating proportion of students from different racial/ethnic groups. Other graphical displays will be considered for….

**Addressing Major Research Questions**

1. What is the overall level of student engagement?
   1. I will evaluate the extent to which the 8 engagement items constitute a quality measure of engagement, as defined earlier. I will conduct an item analysis, evaluate each item’s contribution to the total score (discrimination) and report the score reliability. The total sum of item responses will become the score for engagement.
   2. I will report the summary statistics, including M, SD, Min/Max. I may report a histogram to illustrate the distribution of engagement scores.
2. Does engagement vary based on student characteristics?
   1. Conduct ANOVA to evaluate the differences in race/ethnicity, gender, and international status, on the engagement measure. This will allow us to understand the extent to which engagement levels may be different for participants in different groups.
3. Are students with different characteristics participating in XYZ workshops at a different rate than domestic students?
   1. A series of chi-square test will evaluate the associations between Q24-29 and participation frequency in XYZ workshops. I will be most interested in associations where Phi or Cramér’s Phi are at a moderate or higher level (φ ≥ .20).
   2. I will create histograms to illustrate the “potential” differences in levels of participation in the program by group membership (based on the student characteristics that appear to make a difference from the chi-square results.

**Generalizability**

Regarding the ability to generalize from these results, because this is a census, there should be no problem generalizing to the full group – with the caution regarding nonresponse rates. If the nonresponse rate is minimal and the characteristics of the participants closely matches those of the population, we should be able to make clear and direct inferences about the experiences of the entire group.