

STA304H5 Peer Evaluation and its Effects on Student Performance in Fall 2023

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Target Population: All students enrolled in STA304H5 in Fall 2023.

Describe the mean, proportion, or total you will estimate:

We will estimate the proportion of students who believe that peer evaluation has a positive effect on their academic performance.

Sampling Frame: The sampling frame is a list of all students enrolled, selected randomly from the list.

Sample Size: 50, We will revise the number at a later time after thoroughly studying the sample size formulas.

Sampling Method:

We will use two primary sampling methods for this project.

First, we will post our volunteer-based questionnaire on Piazza and distribute it in lecture halls for students to respond to Voluntary Sampling.

The second approach involves the use of simple random sampling. We will print out questionnaires and randomly distribute them during lectures and tutorials to implement the Simple Random Sampling method.

Data Collection Methodology:

We're going to use anonymous questionnaires. On the one hand, we're going to post the questions on piazza, and on the other hand, we're going to print out paper versions and distribute them in the lecture to gather data.

Online: <https://forms.gle/LeXisQVmZHFepETLA>

Copy of the questionnaire:

1. Which major are you in?
2. Which years are you in?
3. Have you participated in a course or educational program that involved peer assessment? (Yes/No)
4. Does peer assessment improve your understanding of course material? (Yes/No)

5. Does peer assessment help you identify areas of academic performance that need improvement? (Yes/No)
6. Do you believe that peer assessment positively impacts your academic performance? (Yes/No)
7. Do you feel more confident in your intellectual abilities after peer assessment? (Yes/No)
8. If you have yet to participate in any course with peer evaluation, please briefly state whether you would actively choose to conduct peer evaluation and why.

Hypotheses:

H0: Peer evaluation methods have a more positive impact on students' studying achievement than not having a peer evaluation.

H1: Peer evaluation methods have no positive impact on students' studying achievement than not having a peer evaluation.

Advanced Methodologies:

Cronbach alpha: To ensure the validity of the measured data, Cronbach alpha will be introduced as a basis for assessing the reliability of the questionnaire.

Bootstrap estimates: Since our dataset is limited and not every questionnaire will be valid, bootstrap estimation may be used for repeated sampling.

Logistic Regression: As the questionnaire has many binary classification questions, logistic regression may be used.