Diversity and Equity during CoVID-19: An Analysis of Student Attitude and Understanding in Pathophysiology

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Overview of Problem

• Three year residential high school for students gifted in math and science in the state of Illinois

• Hands-on, inquiry based curriculum is encouraged

• Pathophysiology – Biology elective – students tend to memorize rather than apply material learned on assessments, especially so during the pandemic

• Diverse assessments have been implemented to address different styles of learning

• Still leads to frustration with respect to “transfer” questions on assessments
Specific assessment questions are being administered to students before and after the cardiovascular system module in my Pathophysiology class.

These questions are focused on application of material rather than memorization.

Multiple sections are being assessed to gather data.

Data will be refined in terms of gender, age, grade and test preparation time.

Two way ANOVA analysis will be conducted.
Experimental Design Part 2

• To assess attitude of students toward their learning, a questionnaire will be provided to them before the unit regarding study practices, time spent on studying, making a study guide, talking to the teacher outside the classroom, discussing with friends etc.

• A survey will be collected on the same parameters after the unit is completed

• Parameters such as student motivation, available resources, etc during CoVID-19 will also be considered for qualitative analysis

• Possible correlation between student motivation and scores
Data Variables to be gathered

- Student scores on the specific assessment questions before and after completing the cardiovascular unit
- Student gender, age, grade, test preparation time
- Questionnaire on student motivation and attitude before the unit
- Survey after the unit to collect information on student motivation, resources, time spent studying, etc
Feedback Requested

• How can I modify my experimental design to gather meaningful data?
• What other variables can I include to get a clearer picture?
• Are there better statistical methods to evaluate the data?

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Thank you!