

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

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Saber West Conference

January 12 2021

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**

Experimental Design Part 1

- 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!

