Request #: 551 - TEAL - Dissertation

RELATIONSHIPS BETWEEN MIDDLE SCHOOL STUDENTS' ADAPTIVE REASONING WHEN CREATING LEARNER-GENERATED DRAWINGS AND PARTNER TALK DURING INQUIRY-BASED MATHEMATICAL TASKS

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Background

I am studying how students adapt their reasoning as the progress through mathematical tasks. I have collected all the data and am in the process of analyzing the data. Data is delineated between student dialogue and student drawings. The study was delayed and altered due to COVID. Initially students were to interact in person, instead they worked on tasks through chat and video online.

Sample

Mixed Methods. 18 students as they engage in pairs in three different mathematical tasks. Each task has 4 phases. I have collected and coded dialogue student dialogue of the 18 students in the three different tasks. Students also took a posttest to determine the level of DOK at which they work. So I have the DOK scores of the posttest for the 18 students.

Hypothesis

1. What adaptive reasoning indicators do 7th grade students' evidence throughout their discussions and solutions during guided inquiry-based mathematical tasks?
2. What adaptive reasoning indicators do 7th grade students' evidence throughout their drawings and solutions during guided inquiry-based mathematical tasks.
3. How do adaptive reasoning indicators relate to 7th grade students' engagement with level 2 and 3 depth of knowledge tasks?

Progress

1) Coded data and determined Cohen's K (.61, 94.4{%}) for coding inter reliability.
2) Collected descriptive statistical data
3) Data cleaning for Epistemic Network Analysis (ENA) and initial work with ENA. Working with the University of Wisconsin on ENA.

Request

I would like some help with understanding with descriptive statistics, understanding results and how to write up the results for research questions one and two. In addition, I am primarily using ENA for research question 3 - and the University of Madison, Wisconsin. However, I am open to suggestions for other types of analysis that might help explain the phenomenon.

Timeline

I am hoping to consult with someone before the end of June. I am unavailable June 11-15th. I am hoping to complete the analysis/write up by July 6th. This is a soft deadline. Beth MacDonald (my chair) is on

sabbatical during this time, so I am not sure if she will be available to meet.