

Request #: 431 - TEAL - Dissertation

The Essential Nature of Psychological Safety in Advanced Placement Students' Mathematical Discourse

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Background

The purpose of my project is to investigate, determine, and understand if the reasons that advanced placement high school calculus and statistics are reluctant to participate in the mathematics discourse of their classroom community are related to the psychological safety they feel in their class.

Sample

I plan to conduct an online survey. This survey has 12 Likert-scaled questions and two optional open response questions (n=500). I also plan to conduct individual student interviews (n=12) and videotape classes to observe the participatory behavior of these students.

Hypothesis

Overarching Research Question: What relationships exist between Advanced Placement (AP) students' (enrolled in calculus and statistics courses) professed participation in whole class mathematics discourse and their perceived psychological safety relative to the social norms of their class?

To answer this overarching question I will gather data, investigate, and analyze the following three research questions: Research Question 1: Are AP students' (enrolled in calculus and statistics courses) perceptions of psychological safety significantly related to their choice to participate and/or not participate in whole class mathematics discourse? Research Question 2: What are the reasons that AP students' (enrolled in calculus and statistics courses) purposefully choose to participate and/or not participate in whole class mathematics discourse? Research Question 3: What are participating class' observed social norms when AP students' (enrolled in calculus and statistics courses) engage in whole class mathematics discourse?

Progress

I have been working to narrow my survey and interview to one specific idea: that AP students' feelings of psychological safety influence their willingness to participate in the mathematical discourse of their class. I conducted a pilot survey that was much more involved and took too much time for AP students to complete. After discussing this with you (Sarah) a year ago, I have been working to focus my study to one central concept and reduce my survey to an informative but doable length. I am anxious to talk with you to see if you think that my new ideas are more appropriate and possible.

Request

I need help with my survey and help to anticipate how I should analyze the results of my survey to obtain the information that I am seeking.

Timeline

I would like to collect data this spring.