

## #654 - Dissertation

Background	Provided
Description	I worked with Tyson Barrett on the design of this project prior to him leaving USU. Data has been collected on student use of a mobile learning tool in a fluid mechanics course. I am hoping to understand the tool's impact on student interest in fluids, the learning utility of the tool, and the overall usability of the tool.
Sample	Two groups, 41 and 46 participants respectively demographic information (age, sex, gender, ethnicity, gpa, major, year in school) survey responses (primarily likert scale, some open-ended answers)
Hypothesis	RQ 1: How does use of the mobile flow visualization learning tool based on Particle Image Velocimetry affect student interest in fluid mechanics? RQ2. In what ways do students perceive use of the mobile flow visualization learning tool based on Particle Image Velocimetry to be useful for learning fluid mechanics? RQ 3. What recommendations do students offer for improving the design and operation of the mobile learning tool based on Particle Image Velocimetry? Variables age (continuous) sex (binary) ethnicity (binary) gpa (continuous) major (categorical, 4) year in school (categorical, 5) interest level (ordinal, 4 level) career interest (ordinal, 5 levels) skill level (ordinal, 4 level) navigation, upload, output (ordinal, 5 level Likert) feeling responses (ordinal, 4 level Likert) Test-able hypotheses How does each variable impact (1) interest, (2) learning utility, and (3) tool usability
Past	data cleaning, descriptive statistics, linear regression, logistic regression