

Programming Perceptions: Differences among CS and non-CS majors

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Broad question: How differently do programmers and non-programmers view programming task significance?

Thesis question: Is there a significant difference in how computing and non-computing majors view programming task significance?

Significance, in relation to programming, is defined as the amount of resources required to perform a specific programming task. Resources include time, money, and the difficulty of the programming task (as more difficult tasks require more experienced, and thus more expensive, programmers).

Hypothesis: Students in computing majors (CSC/CPE/SE) will be better able to differentiate between significant and insignificant programming tasks than those in non-computing majors.

Validation: In order to test my hypothesis, a survey will need to be performed. In this survey, a scenario involving a piece of software will be explained. Then, multiple additions are added to the program. Some of these additions are menial programming tasks, while others are complex and very time-consuming. The users are then asked a series of questions regarding programming task significance, functionality, and usability. The significance is the question we are really trying to understand, as it is the topic of the hypothesis. Additionally, personal information will be gathered such as course, major, programming courses taken, grade level, and numerous questions to gain a better understanding of their computing competence.

This survey will be given to both computing and non-computing majors, at roughly the same education level. Tentatively, this study will be given to 302 (non-computing majors) and 308 (computing majors) at Cal Poly University. A statistical analysis will be performed to determine if there is a statistical difference between the responses of computing and non-computing majors. The type of analysis is yet to be determined.

Possible outcomes: The outcome that I believe is most likely to occur is that computing majors will select the most significant programming upgrade correctly more than the non-computing majors. Another possible outcome is that there is no statistically significant difference between the choices of computing and non-computing majors. A final outcome, one I believe to be very unlikely, is that non-computing majors chose the most significant programming task more often than the computing majors.