

Consent Document

Principal Investigator Name and Title: Prof. Rebecca Reck

Department and Institution: Bioengineering, University of Illinois Urbana-Champaign

Contact Information: rreck@illinois.edu

BACKGROUND

You are being asked to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Ask Prof. Reck if there is anything that is not clear or if you would like more information. Take time to decide whether you want to volunteer to take part in this study. The purpose of the study is to examine how students evaluate “certainty” in their answers about course content. This relates both to certainty in generating answers in class activities and their certainty when presented with information from an outside. This is a fundamental part of critical thinking, and engineers should develop the capability to judge their own certainty as they work to ensure that their engineering practice is safe, ethical, and reliable.

STUDY PROCEDURE

The data for this study will be gathered from typical in-class activities and questionnaires. The pre-lab quizzes, custom mini-quizzes in each lab section, the pre-semester introduction survey, and the post-semester exit survey will be used as sources of data. Participation in this research will not require you to complete extra work or additional time commitment. Questions will be asked about how you approach source evaluation and whether you are certain about your answers. Not all students will receive the same version of quizzes, but there is no systematic method for determining who gets what quiz; you have the same chance of receiving any version of the quiz. It is expected that each version of a given quiz represents approximately the same amount of work, and that none of these activities will affect your grade in the class.

RISKS

You may feel stressed by the quiz as it is an assessment procedure. These risks have been minimized because the quiz is not timed, it will not affect your grade, and the results will be anonymized before sharing the results with others.

BENEFITS

We cannot promise any direct benefit for taking part in this study, but these class activities are intended to align with course objectives and help you develop your critical thinking as an engineer. This study will help us improve the course in the future and learn more about how students develop critical thinking skills.

HOW WILL THE RESEARCHERS PROTECT MY INFORMATION?

Participant information will be secured using the same procedures as any graded material: student-specific work will be held in locked or otherwise private offices. Before data dissemination, identifying information will be removed from the collected data; all students will be assigned a random ID number which will be used to refer to them rather than names. Data being processed will be stored on password-protected computers and private online servers.

WHO WILL HAVE ACCESS TO THE INFORMATION COLLECTED DURING THIS RESEARCH STUDY?

Efforts will be made to limit the use and disclosure of your personal information, including research study records, to people who have a need to review this information. We cannot promise complete secrecy. There are reasons why information about you may be used or seen by other people beyond the research team during or after this study. Examples include:

- University officials, government officials, study funders, auditors, and the Institutional Review Board may need access to the study information to make sure the study is done in a safe and appropriate manner.

FUTURE USE OF RESEARCH DATA

Only de-identified information will be stored for future use in any continuations of the study; maintaining data on aggregate quiz performance without retaining any personally identifiable information will allow for improvements to the quizzes. Future use of the data will also be subject to IRB approval, and all data will continue to be stored on password-protected devices.

HOW MIGHT THE INFORMATION COLLECTED IN THIS STUDY BE SHARED IN THE FUTURE?

We will keep the information we collect about you during this research study for study recordkeeping and for potential use in future research projects. Your name and other information that can directly identify you will be stored securely and separately from the rest of the research information we collect from you.

De-identified data from this study may be shared with the research community, with journals in which study results are published, and with databases and data repositories used for research. We will remove or code any personal information that could directly identify you before the study data are shared. Despite these measures, we cannot guarantee the anonymity of your personal data.

PERSON TO CONTACT

If you have questions, complaints or concerns about this study, you can contact Prof. Rebecca Reck at rreck@illinois.edu or 217-300-8461 or Joseph Tibbs at jtibbs2@illinois.edu or 641-640-8760.

Institutional Review Board: If you have any questions about your rights as a research subject, including concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 217-333-2670 or e-mail OPRS at irb@illinois.edu. If you would like to complete a brief survey to provide OPRS feedback about your experiences as a research participant, please follow the link [here](#) or through a link on the OPRS website: <https://oprs.research.illinois.edu/>. You will have the option to provide feedback or concerns anonymously or you may provide your name and contact information for follow-up purposes.

VOLUNTARY PARTICIPATION

Research studies include only people who choose to take part. You can tell us that you don't want your data to be included in this study. You can start the study and then choose to stop the study later. This will not affect your relationship with course staff or your grade; the list of participating students will be kept secret from the investigators until after final grades have been submitted for the semester.

COSTS AND COMPENSATION TO PARTICIPANTS

There are no costs other than the time taken to engage in the classroom activities that contribute to the data of this study; there is no tangible compensation for participation.

CONSENT

- I confirm I have read the information in this consent form and have had the opportunity to ask questions. I have received a copy of this consent form. I voluntarily agree to take part in this study.
- I have received a copy of this consent form, and I do not wish to participate in this research study.

Printed Name of Participant

Signature of Participant

Date

Printed Name of Person Obtaining Consent

Signature of Person Obtaining Consent

Date