

(webform when first logging into the software)

**TEXAS A&M UNIVERSITY HUMAN SUBJECTS PROTECTION PROGRAM
INFORMATION SHEET**

Project Title: Enhancing Visualization Skills and Conceptual Understanding Using a Drawing-Recognition Tutoring System for Engineering Students

You are invited to take part in a research study being conducted by Dr. Tracy Hammond, Dr. Stephanie Valentine, and Dr. Kristi Shryock. The research is funded by the National Science Foundation Award # 1726306. The information in this form is provided to help you decide whether or not to take part.

Why Is This Study Being Done?

The purpose of this study is to understand what types of approaches enhance student's learning of statics and mechanics of materials. The Mechanix software is designed to provide immediate and personalized feedback on your hand-drawn homework solutions. This research project is trying to see how effective the software is in aiding understanding for differing groups of students based on preparation and other demographic information. The researchers also want to obtain feedback as to how to make it better.

Why am I being asked to be in this study?

You are being asked to be in this study because you are enrolled in a course that is testing out educational software that provides immediate personalized feedback to student's hand-drawn solutions.

How many people will be asked to be in this study?

2,000 people (participants) will be invited to participate in this study locally. Overall, a total of 10,000 people will be invited across multiple educational facilities.

What will I be Asked to Do?

To participate in this study, you will perform your normal classroom activities. Your teacher will introduce the concepts and assign homework. A portion of the class (up to 100%) will be randomly chosen to use the Mechanix software that provides immediate and personalized feedback on your solutions. All participants will use Mechanix to complete a pre- and post- test and the optional demographics questionnaire. The teacher will introduce Mechanix and how to use it to submit your homework. After the study is complete, even though students who were not chosen to be in the test group will be given the option to use Mechanix to study for their final exam.

Note that you still need to do your homework whether or not you participate in our research study. That means you may still have to use Mechanix to submit your homework, it will just not be included in our study.

For our research, we ask your permission to use the data from your software data to help us determine whether Mechanix is an effective tool for studying. Through Mechanix, you will also be requested to supply optional demographic information, such as your age, grade, major, and prior experience. As part of your class requirements, Mechanix data will also include pre- and post- tests of your knowledge of the subjects as well as your scores and your solutions to the assignments. You may also opt to provide verbal comments about the software if you so wish in a focus group.

If you decide to participate in a focus group, it will be recorded with an anonymous voice recorder so that your anonymity will be preserved.



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IRB APPROVAL DATE: 12/05/2017

What are the possible benefits of this study?

The study will provide insights as to how to create better educational software that can improve student learning.

Do I have to participate?

No. Your participation is voluntary. You may decide not to participate or to withdraw at any time without any effect on your class grade or any other relations.

Again, note that you still need to do all course-required homework assigned, including the pre- and post-test whether or not you participate in our research study. That means you may still have to use Mechanix to submit your homework, it will just not be included in our study.

Who will know about my participation in this research study?

Your course instructor will not know whether you have chosen to participate in the study or not until after the semester is over through the use of a computer time-lock.

Will I be compensated?

No.

Will Information From This Study Be Kept Private?

The records of this study will be kept private. Research records will not contain any identifying information. No identifiers linking you to this study will be included in any sort of report that might be published. All research information will be stored in a password-protected database behind a secure firewall at Texas A&M University.

People who have access to the collected information include the Principal Investigator and research study personnel. Representatives of regulatory agencies such as the Office of Human Research Protections (OHRP) and entities such as the Texas A&M University Human Research Protection Program may access the records to make sure the study is being run correctly and that information is collected properly.

The agency that funds this study (National Science Foundation) and the institution(s) where study procedures are being performed Texas A&M University may also see your anonymous information. Any information that is sent to them will be coded so that they cannot tell who you are. If there are any reports about this study, your name will not be in them.

Information about you and related to this study will be kept confidential to the extent permitted or required by law.

Who may I Contact for More Information?

You may contact one of the Principal Investigators to tell them about a concern or complaint about the research.

Texas A&M University: Dr. Tracy Hammond, hammond@tamu.edu, 979-324-6022

Texas A&M University: Dr. Kristi Shryock, kshryock@tamu.edu, 979-845-0735

Texas A&M University: Dr. Stephanie Valentine, valentine@tamu.edu, 979-847-7635



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For questions about your rights as a research participant; to provide input regarding the research, or if you have questions, complaints, or concerns about the research, you may call the Texas A&M University Human Research Protection Program office by phone at 1-979-458-4067, toll free at 1-855-795-8636, or by email at irb@tamu.edu.

What if I Change My Mind About Participating?

This research is voluntary and you have the choice whether or not to be in this research study. You may decide to not begin or to stop participating at any time. If you choose not to be in this study or stop being in the study, there will be no effect on your class grades, student status, relationship with Texas A&M University, etc. To change your mind, click Settings/Consent in the menu in the top right.

STATEMENT OF CONSENT

The procedures, risks, and benefits of this study have been told to me and I agree to be in this study. My questions have been answered. I may ask more questions whenever I want. I do not give up any of my legal rights by signing this form.

You are not being asked to sign this consent for since your signature would be the only record of your participation. Rather, please click the appropriate button below to specify your intention to participate.

If you would like to participate in this study click here: YES, and I am 18 or over

If you would not like to participate, click here: NO

IRB Stamps Here:



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