

Experimental design (covers chapters 2 and 3 from your book)

The link below provides simple online tests to help you understand basic concepts in experimental design. Please take them before answering any other questions. These tests take only a few minutes and they all provide correct answers after completion.

<http://education-portal.com/academy/lesson/true-experimental-design.html>

(Do quiz 1-5. If you click on transcript, you get short text explaining the concepts. This is similar to “Khan Academy concept”: short clear and multimodal – video, text, activity).

After taking the quizzes, do exercises 2, page 38 and exercise 2, page 66 from your book.

These are **not** to be turned in, but like the quizzes, are helpful for the task you have.

Please be **CONCISE** and **PRECISE** in your answers, but do cover all required steps carefully. The length of the answer often has nothing to do with its correctness.

Grading:

2 points for well-done homework

1 point for partially correct answer

0 points for incorrect answer

Assignment 2

Find your own HCI-related research issue, which you can tackle with experimental design.

An example of research issue could be: you just got a Leap motion and you became quite good in simple text editing using the Leap. You have two efficient gestures, one for selecting and one for cutting the text. You want to show to the world that these work better than the mouse and keyboard.

Step one: Re-frame the issue as a **research question**.

Step two: identify **dependent and independent variables**.

Step three: formulate clearly **null and alternative hypothesis**

Step four: chose the appropriate **kind of experimental design** (justify in a few words), (see figure 3.2 on page 45 of your book).

Step five: **design the experiment** (how many trials, how many people should it include, how it should be conducted etc)

Step six. **Conduct your experiment**. Show your **results as a table**.