

## Course "Empirische Bewertung in der Informatik"

Freie Universität Berlin, Institut für Informatik, Arbeitsgruppe Software Engineering

Prof. Dr. Lutz Prechelt, Julia Schenk

Practice sheet 7

SoSe 2014

due on 2014-06-16

Please make sure to always prepare your solutions in a way that you are able to present them to your class mates and discuss your solution process effectively.

### Task 7-1 Experiment Evaluation

Learning aim: Practice analyzing and evaluating experiment-based research.

Study a piece of research that used experiments. Concentrate on the approach used rather than on any statistical analysis of the data. Answer the questions in the "Evaluation Guide" and explain your answer. Also be prepared to give an elevator pitch introducing the piece of research you studied.

Evaluation Guide<sup>1</sup>: Experiments

1. Was a hypothesis or predicted outcome of the experiment clearly stated in the introduction?
2. Was the research a true experiment, a quasi experiment or an uncontrolled trial?
3. What information is given about the independent and dependent variables manipulated or measured in the study? What additional information would you like?
4. What information is given about participants and how they were found? What additional information would you like?
5. What information is given about how representative the sample is of the wider population from which conclusions are drawn? Are you satisfied that the sample is representative?
6. What information is given about the apparatus and the process the researchers used to make measurements? What additional information would you like?
7. What limitations in their experiment strategy do the researchers recognize?
8. Given your current state of knowledge, can you identify other flaws or omissions in the researchers' reporting of their experiment?
9. Assuming their statistical analysis is correct, have the researchers convinced you that they have demonstrated cause and effect?
10. Overall, how effectively do you think the experiment strategy has been reported and used?

### 7-2: Survey "Administration"

Observe the deadline for starting the survey in task 6-2 b) on practice sheet 6.

**7-1 a)** Check the first returns as to their content and the type of people answering.

If you find out that something goes terribly wrong (e.g. the questionnaire is incorrect or data is wrongly saved or not saved at all):

- Try to save what can be saved: save the results so far, correct and document the time, the problem and your measures taken.

If you find out that a certain group of people is strongly underrepresented or you are receiving far too little answers:

- Try to find an adequate forum which will help you to fill the gaps.

---

<sup>1</sup> Source: „Researching Information Systems and Computing“ by Briony J Oates

**7-1 b)** Get an overview of:

- The percentages of each type of participant;
- Which shortcomings did your recruitment letter possibly have?
- Which measurements during the survey have you already undertaken additionally and which do you still plan to undertake?

Prepare to give an **interim report** in the next tutorial and put this report on your wiki-page.