

The University of W.A.

Software Quality and Measurement 400

© Terry Woodings 10 May, 2004

Assignment Two (Part two) - Procedure Assessment

Internet Search

**This assignment is worth 10% of the final mark for this unit.
It is to be completed on or before Monday 31st May 2004.**

Preliminaries

This trial is designed to assess the efficiency of sets of instructions in guiding non-computer literate people in searching on the internet for a piece of technical information.

The set of instructions was produced as an assignment earlier in the semester with possible extensions after (i) reading the efforts of other people, (ii) a desktop-checklist review, (iii) feedback from the lecturer and (iv) lectures and a laboratory class on the quality of user documentation.

Hypothesis

Define the null hypothesis. One possibility is that the effectiveness of the instructions is no better than going to the local library and looking up the information in an encyclopaedia. Prior to carrying out the trial, state the worst acceptable & planned levels of performance.

Method

Each student will persuade four or more friends or family members to act as subjects in finding a piece of information from a computer on the internet.

The subjects must be between 15 and 50 years old and familiar with the technology. It is important that the subjects know that it is the instructions and the software that is being evaluated and that this is not a test of their web-searching ability. They should be given a short description of the trial. The benefit for the subjects is in gaining a set of clearer instructions and some training in how to use them. If they are doubtful or in any way negative towards the task, then they should be excused and a backup subject used.

Subjects must only be given the introduction written below plus the procedure. Subjects must not be allowed to communicate with each other until after the whole session is complete. Should there be any suspicion that the data may be contaminated, then the trial must be restarted with new subjects. Times, numbers and types of errors made, final result [task not completed within 20 minutes, task completed but did not correctly find all the required information, task fully completed] and subjects' comments on the usefulness of the instructions are to be written on the data sheet. After the conclusion of the trial, subjects should be provided with any further explanation or assistance they request.

Statistics

Variation between results may be ascribed to differences between web-search engines, between experimenters and between subjects. If the subjects are not allowed to communicate then there should be no learning effect. Large variation between procedures and experimenters is expected.

Carry out an appropriate statistical test of the results, comparing them to the required performance level for the procedure.

Prior to starting:

Check that the computer and internet connection are working correctly, that they are switched on and that the chosen web search engine is easily accessible. Check you have a wristwatch, which measures in seconds.

Deliverable:

At least four data sheets based on the pattern below should be completed and handed in together with a report commenting on the method, summarising results and discussing the quality of the instructions available. Specifically comment:

- (i) on what you would do to enhance your procedure and
- (ii) on how the trial could have been improved.

Instructions to subjects

[Explain to the subject that it is important that everyone receives exactly the same information - which you will now read out]

"Thank you for taking part in this trial of web searching instructions. It should not take more than about twenty minutes of your time. The objective is for us to measure the ease of use of the computer and the effectiveness of the set of instructions in helping you to find information. It is not our objective to check your performance and in fact we hope that this may be of some assistance to you in becoming familiar with this sort of technology. You will not be identified in any way in the results. A complete set of findings will be passed to you when completed in about a fortnight's time. We simply want to find out what sorts of instructions work best. OK?"

[Wait for assent]

"We would like you to use the instructions which I am about to give you to search the internet to get a complete list of Australian Nobel prize winners. We would like to know their names, the year they won and their category {Physics, Medicine, Literature, Peace, Chemistry, Economics}.

For example, Patrick White won the literature prize in 1973.

The computer is already switched on. All you have to do is find the search engine and give it the correct instructions. There is no time limit and you may stop at any time if you think the instructions are insufficient. I cannot give you any assistance once you have started. Do you have any questions?"

[Answer any reasonable questions about the trial or the task, short of telling them how to do it. Reassure, if necessary, that we are not testing them.]

"OK - I suggest that you read right through the instructions before starting. Just to repeat, we want you to find:

**Nobel Prize winners from Australia.
Their names and the year they won.
Which Category they were in.**

[Upon completion or after about twenty minutes:]

"Thank you for helping us. Had you ever done a web search before? If so, how long ago? Do you have any comments about these instructions?"

[Note answers]

Data Collection Sheet

Your (the experimenter's) name _____

Number of subject (1st, 2nd, 3rd, 4th, 5th) _____

Age (teens, twenties, over thirty) _____

Sex (male, female) _____

Time started _____

Time stopped _____

Announced that task completed (yes, no) _____

All winners correctly found (yes, no) _____

Number of errors made _____

Comments by subject

Comments by experimenter
