Notes on experiment design and checklist for running experiment

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1 Notes and checklist while designing and testing the experiment

1.1 Important Notes

1. Never run an experiment without testing it. I have seen too many fail because of improper testing.

2. **Always have very few participants on the first day of running the experiment, in case something goes wrong with it**. For example, the experiment might freeze in the lab or you might have forgotten a crucial stimulus. This happens often, by the way. After running the experiment on the first day, check the results to make sure you are collecting all the data you want to.

1.2 Designing experiments

1. Make sure there is at least 0.5 second inter-stimulus interval (ISI) between stimulus presentations. (unless manipulating the ISI is part of your experiment)

2. Make sure there is plenty of time for responses. Maybe, make it 100 seconds. [Note: Psychopy freezes sometimes if the allocated response time has been used up.]

3. Make sure the text instructions before the trials start are clear and animated so that they don't all appear at one time.

4. Make sure that there is a clear instruction/prompt along with every trial.

5. Give the participant some time before flashing the *press mouse/spacebar to continue* at the bottom. Allow the corresponding keyboard/mouse response only when this instruction flashes on the screen.

6. Avoid screens with a lot of text. Make sure the text is in a comfortable font and font size.

7. If you want to modulate speech rate, there are two good ways:

    (a) Change how much time they have to respond to a stimulus (e.g. 3 sec vs. 6 sec)

    (b) Give them sample sentences to listen to at the intended rate. But make sure that no crucial sounds are in the sample sentences.

8. Pilot the experiment on family and friends for feedback about instructions and experiment. This will allow you to identify problems with the experiment before running them.

(a) There is no specific answer to the question of how many participants should be in your pilot and who they should be; however, there is a general answer to such questions. You will need to think about why you are running a pilot and whether by running it on X people you have learnt what you wanted to. There can be different reasons to run a pilot, hence there can in theory be different answers. For example, if you are running the pilot to ensure that your instructions are clear to your participants (are you also running it to test your stimuli?). If only the former, then there is no point of running the pilot on linguists, as they are not your target group. Furthermore, I would advise you to run it on more than one. Let's say that the two participants interpreted the instructions slightly differently or one of them misunderstood them, then you will need to clarify them.

2 Checklists for experiment day

2.1 Pre-experiment check-list

Note 1: You should be there 30 - 60 minutes before you participants come in to go through the pre-experiment check list.

Note 2: Always have very few participants on the first day of running the experiment, in case something goes wrong with it. This happens quite often, by the way. (repeated from the previous page, since it is important)

☐ On a Mac, go to *System Preferences → Accessibility → Audio*, and then select *Play stereo audio as mono*. Otherwise, it might play the audio from only one of the speaker/headphone channels.

☐ Make sure the computer volume is set to a comfortable level (just above half the range). If the headphones have a volume rocker, make sure it is at maximum.

☐ If you are running a production experiment, make sure your microphone isn't too sensitive (if it is, it will result in clipping). On a Mac, you can go to *System Preferences → Sound → Input*, and then change the input volume settings.

☐ **Test the experiment, and make sure it is completely working!**

2.2 Pre-experiment instructions to the participants

Note: **Never produce the test items yourself in front of the participant. This might bias their responses or productions.**

☐ Please wait till all instructions are given by the experimenter, and the experimenter asks you to start the experiment.

☐ Please switch off or mute their phones.

☐ Wait quietly after the experiment, till everyone is done.

2.3 Post-experiment check-list

☐ **Make sure that you have in fact collected the data. If you are using the *Research Data* folder, then make sure that the data has saved to the relevant experiment folder.**

☐ Close the experiment software, and log out of all the computers.